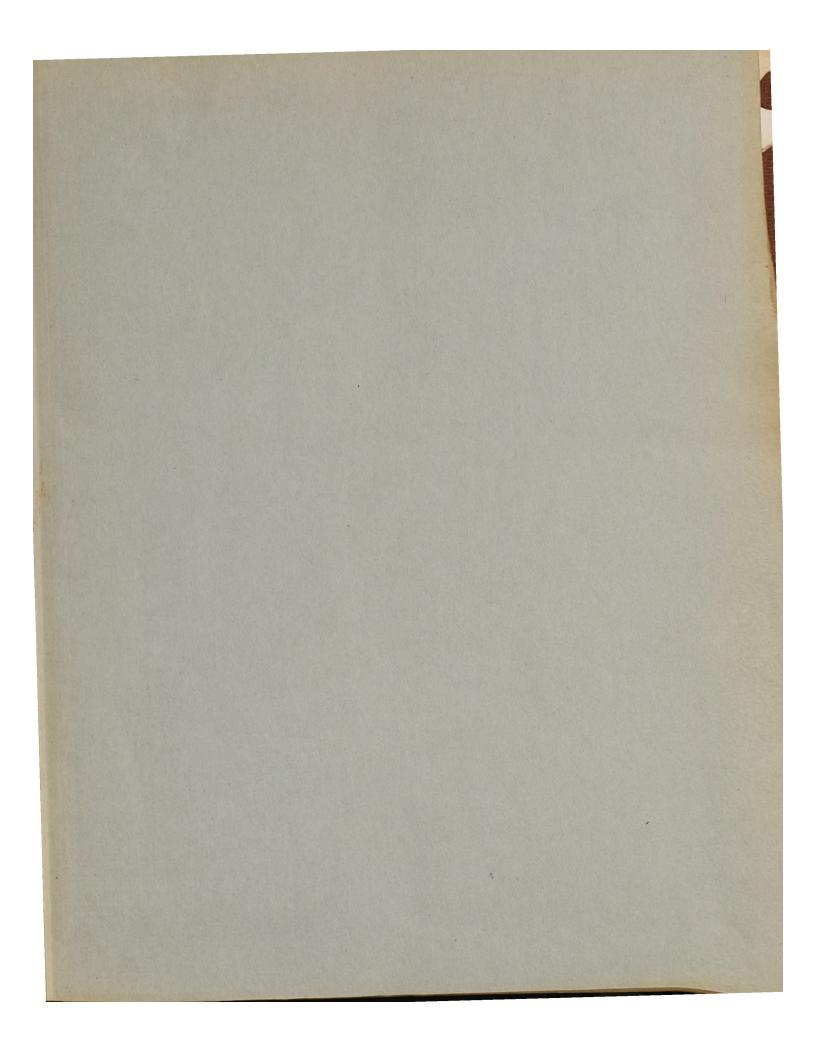
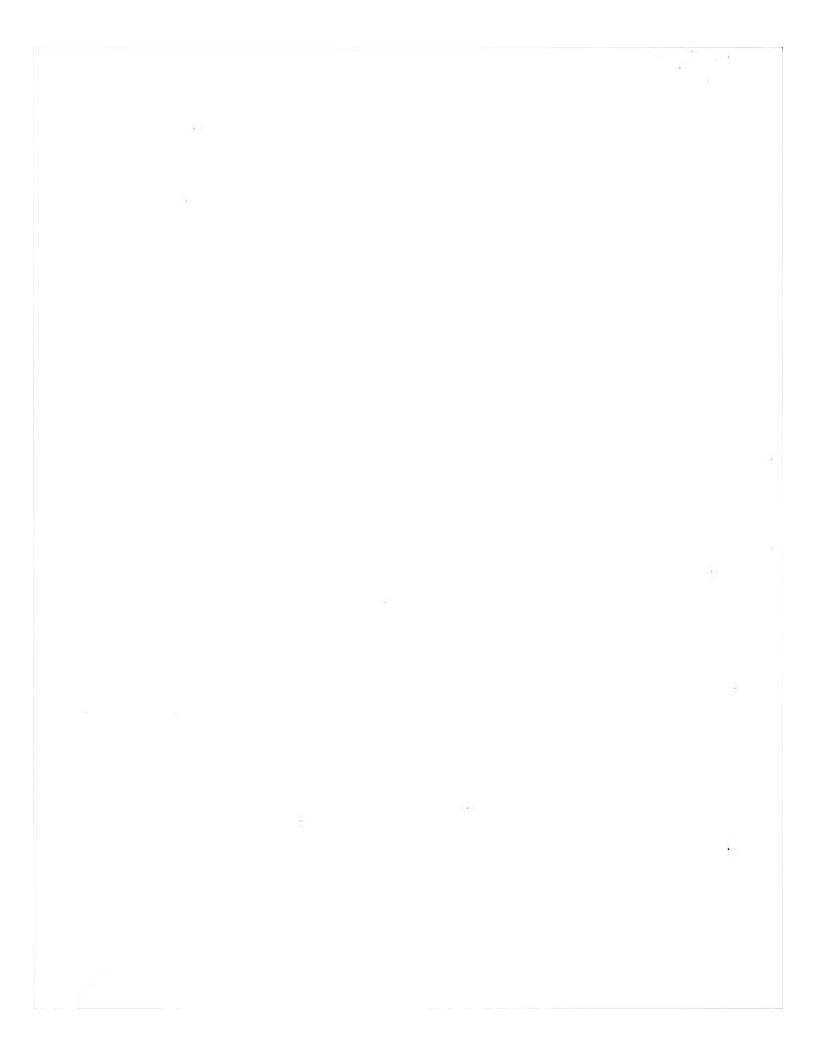


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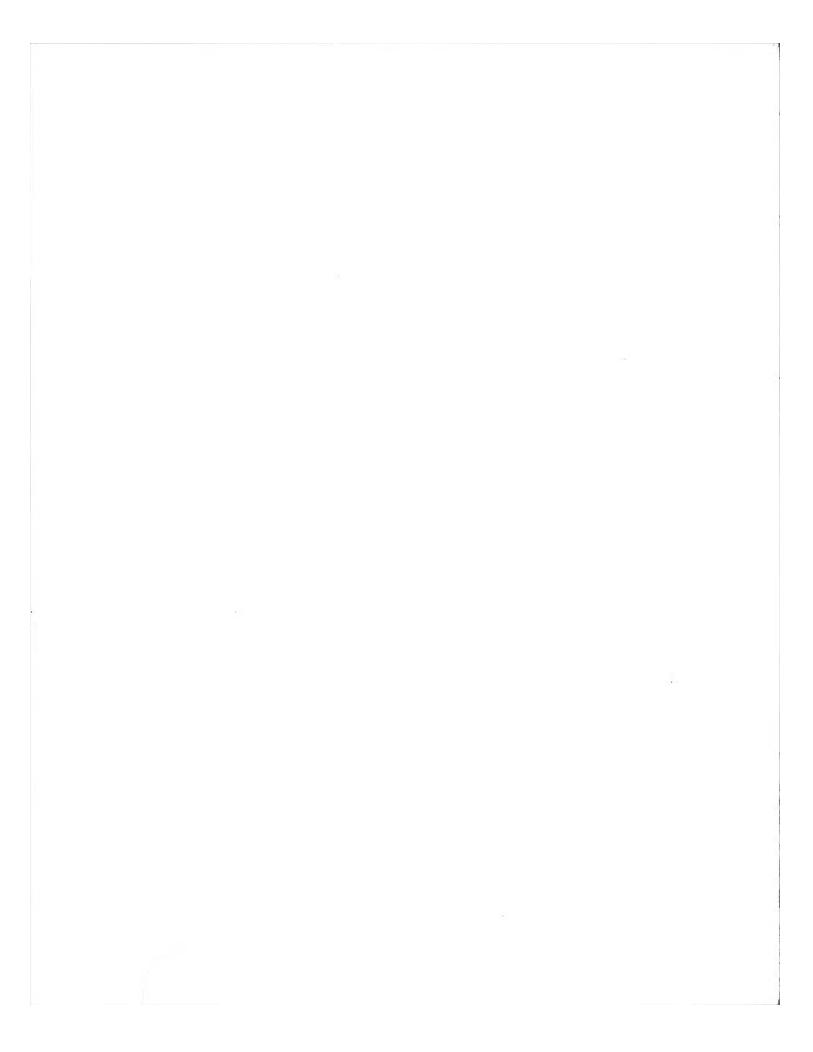
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THE

VETERINARY RECORD

A Weekly Journal for the Profession.

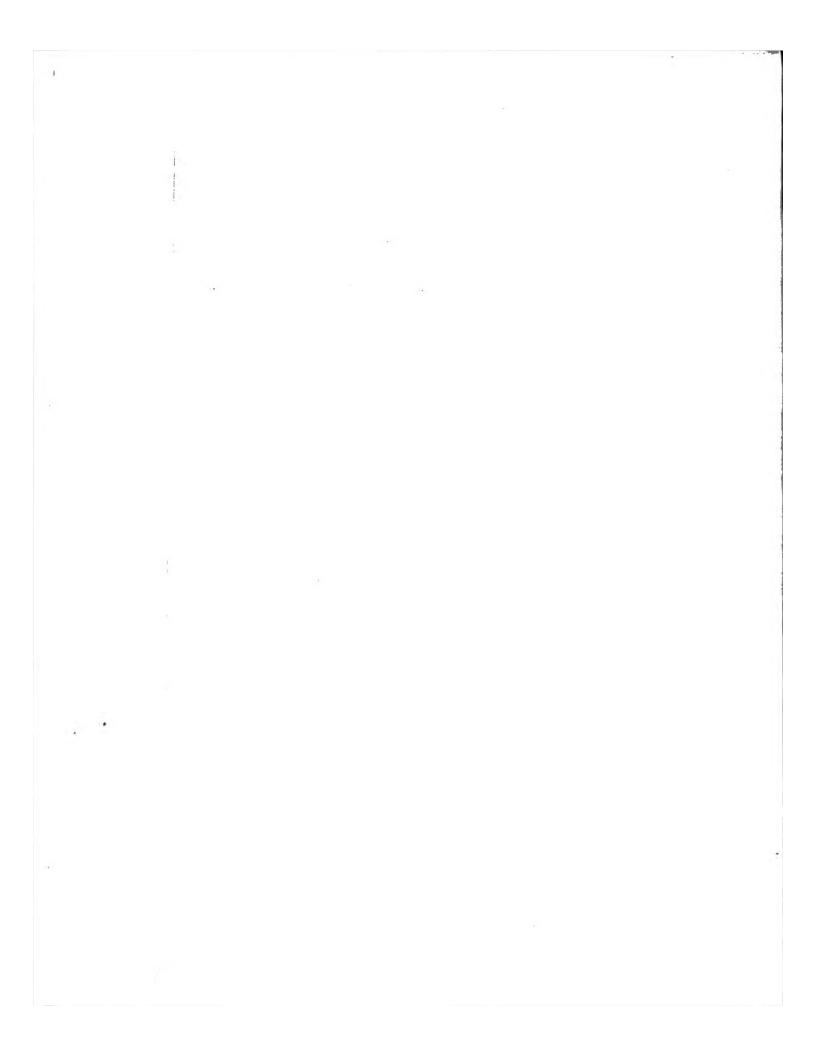
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FOUNDED BY THE LATE WILLIAM HUNTING, F.R.C.V.S.

VOLUME XXX.
July 1917, to June 1918.

London:

PRINTED AND PUBLISHED BY H. & W. BROWN, 20 FULHAM ROAD, S.W. 3.



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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1513.

JULY 7, 1917.

VOL. XXX.

SCHEDULED DISEASE.

This week completes the Board of Agriculture returns of scheduled disease for the first half of 1917. The report is good as regards most diseases, including all the most serious ones; and that must make amends for its unsatisfactory features.

First, and best, we have had no foot-and-mouth disease throughout the six months. It is over a year now since our last outbreak, and we cannot be too thankful for our continued immunity. Glanders has dropped considerably—15 outbreaks as against 27 for the corresponding period last year—and it seems likely to give little further trouble till after the war. Anthrax again shows a slight decrease, though we can never be sure that the anthrax figures are not misleading.

Swine fever, which began to decline during the latter half of last year, now shows a further and very marked fall. Only 1412 outbreaks are reported, as against 2615 2332, and 2118 for the corresponding periods in 1916, 1915, and 1914 respectively. It is impossible to guess what share the use of serum has had in this decrease, for we all know the great and inexplicable fluctuations which characterise swine fever; but the present figures certainly look very encouraging.

The only dark spots in the report are our two scheduled acariases. Parasitic mange continues to increase, though, so far this year, not greatly. It seems very probable that the increase, which is due very largely, if not wholly, to war conditions, will be maintained while the war lasts; but we may hope to prevent it from becoming very serious. Sheep-scab shows much more disquieting figures. No less than 383 outbreaks have occurred, as against 177, 156, and 147 for the respective corresponding periods in 1916, 1915, and 1914. Before the war we had been making steady, if

slow, headway against sheep scab. Then we lost ground slowly for a long time; but in the latter half of last year the disease began to increase much more rapidly, and has continued to do so. Our pre-war record of progress suggests the real cause of the present set-back and afford grounds for hoping better things; but in the meantime we have to deal with the position as it stands to-day. We know that it is engaging close official attention, that special local regulations have been applied, and that others may follow; for at present this is the one scheduled disease that shows signs of getting out of hand.

The Board may be congratulated upon its six months work. How many of the other warring countries could show such good figures? We know that some could show nothing approaching them.

NOTE ON AN OUTBREAK OF CONTAGIOUS PNEUMONIA IN DONKEYS.

An outbreak of this disease occurred among the young stock donkey jacks at the Government Cattle Farm, Hissar, on July 20, 1916.

For ten months in the year these animals run out in extensive paddocks, only coming up at night into open thorn kraals. Shade temperature by day during the hot weather reaches 120° F., and during winter at night gives below freezing point.

Young stock mules separated into fillies and geldings live in adjacent paddocks. It is customary in the rains, or perhaps here it would be more accurate to say in the months which tradition holds to be rainy, to move these animals out of the paddocks for about two months, to give the grass—if rain does fall—a chance of coming up, and to rest the paddocks.

They were moved this year on July 18, to lines occupied at night during the cold weather by cattle: big open yards, each several acres in extent, and each provided with lean-to thatched shelters. The animals were divided into four lots—two of mules and two of jacks. The mules according to sex, and jacks, according to size, into big and little. They were taken out of their lines twice daily to water from a trough filled from a well. The trough was capable of being emptied, cleaned and disinfected.

On the 20th July, 1916, two of the small donkey colts were reported to be down with pneumonia. I was not able to see these animals till the evening. Both were then very marked cases of pneumonia, the temperature of both was between 106° and 107° F., the breathing of both was very markedly abdominal. Both showed signs of exhaustion—standing in a listless way, with their ears hanging half down, and penis protruding. One, No. 295, was feeding; the other, No. 301, was off feed. The visible mucous membranes were injected, but were not icteric.

I was at first undecided whether to treat the disease as contagious or not, and on the whole inclined to think it non-contagious. Sporadic pneumonia is not uncommon here; the weather was treacherous, very hot and stuffy generally, with intervals of chilly winds and showers of rain. The animals in the course of moving across the open from the paddocks usually gallop about a good deal and get hot: I thought a chill might be mainly responsible for the cases. Meanwhile they were isolated. During the 21st no fresh cases were noticed. The temperature of both affected animals on the morning of the 21st was approximately 105° F.

No. 301 was much worse, he was completely off feed, and terribly weak and exhausted, alternately

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lying down and getting up. His thorax was punctured with an ordinary trocar and canula, but little or no fluid came away, and no relief was obtained by the colt, which died during the afternoon. He had been a strong, well-grown colt, and was about 15 months old.

The post-mortem examination revealed extensive hepatisation of both lungs, only a small portion of the posterior lobe of the right lung was unaffected.

There was no pleurisy.

The pericardium was inflamed. Pus of about the consistency and colour of clotted cream could be squeezed from the bronchioles from any part of the affected lung tissue. Smears made from the pus, stained with methylene blue, showed masses of micrococci apparently in pure culture; in parts of the field where they could be clearly seen the cocci were mostly grouped in the form of diplococci.

cocci were mostly grouped in the form of diplococci.
On the 22nd, the temperature of colt No. 295 was still 105° F., dyspnoea was still marked, but his appetite had improved. At the inspection of the healthy colts during their morning feed, one colt, No. 276, was noticed with marked abdominal breathing. He was feeding ravenously. His temperature was taken, and was found to be 107° F.

It was at once decided to treat the disease as contagious, and a hospital was extemporised in one of the adjacent cattle lines, of which there were

several still empty.

The sick colts Nos. 276 and 295 were moved to this hospital. The young stock mules were all moved to fresh lines about two miles away. This was done as a previous outbreak of contagious pneumonia in young donkeys had occurred on the farm in 1909 (before my connection with it), which had practically confined itself to donkeys, although both young stock mules and pony mares had been in contact. I hoped that if again in this case the susceptibility of mules should be slight that they might escape altogether if moved.

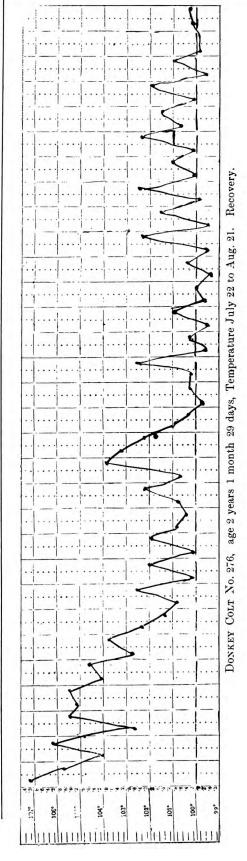
From the morning of the 23rd the temperatures of all the donkey colts present was taken twice daily. Nine colts then had temperature over 103° F., but all were feeding well, and none showed

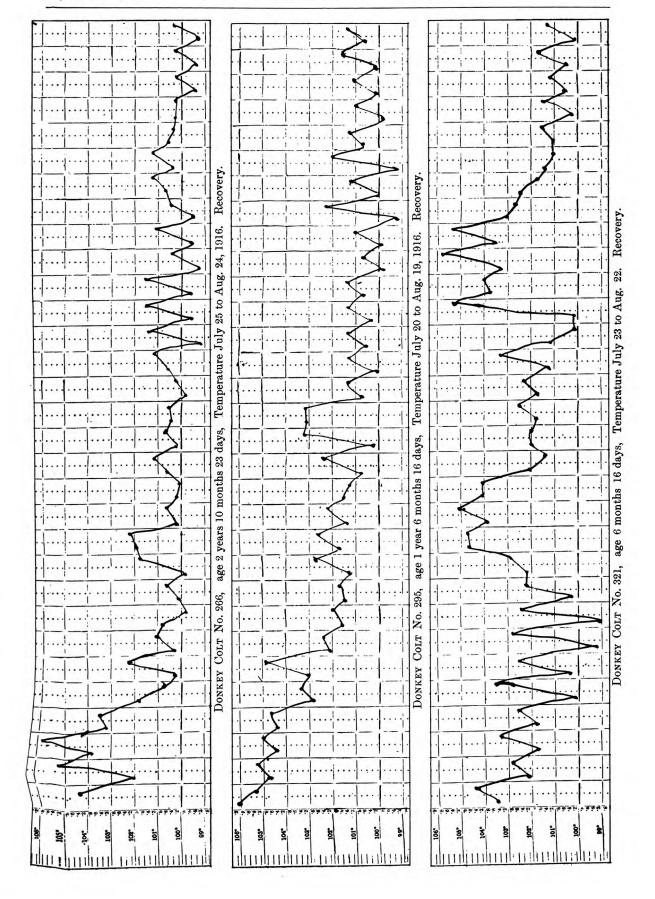
any sign of difficulty in breathing.

Another empty line was detailed for suspicious cases; animals showing slight elevation of temperature and no other symptoms were sent there, and

carefully watched.

Animals the temperature of which remained in the neighbourhood of 104°F. for 24 hours were taken to hospital. Separate arrangements for watering were made for the animals in hospital and in the line for suspicious cases. From the 23rd July till the middle of August fresh cases were of almost daily occurrence, and one or two cases kept on cropping up at intervals of two or three days till the end of August. Treatment consisted of cold enemas while the temperature was high; electuaries containing quinine; application of mustard to the sides of the chest, also to the throat in cases showing any signs of laryngitis; inhalations of eucalyptus; and to some cases salines in the drinking water. Alcohol in the form of rum was given in doses of 4 oz. to one or two animals which





showed signs of great exhaustion, but except for that no animals were drenched.

The total number of jacks present at the beginning of the outbreak was 77, of which 47 big ones (mostly $1\frac{1}{2}$ to $3\frac{1}{2}$ years old) were in one yard, and 30 little ones (mostly 6 months to $1\frac{1}{2}$ years old) were in another.

Of the 47, 11 animals showed definite symptoms of the disease and were treated in the sick lines.

Of the 30, 21 were definitely attacked. Only one animal died—No. 301—the post-mortem of which is described above. At the time of the death I was not certain that I was dealing with contagious pneumonia, or probably I should have made more careful notes of the post-mortem.

A considerable number of animals became very seriously ill, and breathing, if affected at all, was generally very noticeably affected, and markedly abdominal. Cases seriously affected all lost con-

dition very noticeably.

In serious cases the attack generally lasted for at least seven days. Relapses after apparent recoveries occurred in several cases; the temperature chart of colt No. 321 was typical of this. In no case, except No. 301 which died, was any animal completely off his feed. The majority of cases fed well all through the attack. In no case, after daily records of all temperatures were taken, did any difficulty in breathing occur till some days after the animal had shown an elevation of temperature.

No doubt the outbreak was of mild virulence, but I am inclined to attribute a portion of the credit for the absence of casualties to the early use of the thermometer and consequent early treat-

ment.

The chief point of interest in this outbreak, as well as in the outbreak of 1909, was that although the disease appeared to be identical with what text-books describe as "Equine contagious pneumonia," or at any rate there was a remarkable similarity as regards both the symptoms and the course of the disease, probably also as regards the causal organism, yet horses appeared to be immune, or at least to possess a very high degree of immunity as compared with donkeys.

During the course of the 1909 outbreak, as far as I can gather from the Farm Assistant Veterinary Staff present then, about 97 young stock donkeys, of both sexes and all ages from birth up to three years old, were in contact throughout. Eighty-eight donkey mares, 37 pony mares, some with male foals, and 107 mules of all ages from six months to four years, were in adjecent lines for part or all of the

time.

The majority of the young stock donkeys appear to have been affected, and 14 died. Most of the deaths were among animals about one year old or younger. Some deaths occurred among unweaned foals.

One death from pneumonia occurred in an unweaned mule foal, but doubts appear to have been felt as to whether this was a case of contagious pneumonia. No cases at all occurred amongst the pony mares.

In the outbreak now described (1916) two pony fillics, aged between two and three years, were running with the big donkey colts at the time the outbreak occurred. They remained with the donkeys throughout the duration of the outbreak, but never showed the slightest deviation from a condition of perfect health.

On the 24th July I sent a valueless mule with big bog spavins, aged about twelve months, to the sick lines. He remained there till the close of the outbreak, but never showed any symptoms of the

disease.

Later I also sent a mule foal, about two months old, which had lost its mother and was being hand fed, into contact with the disease, where it remained over a month. The foal never showed any signs of the disease, although it was probably at about the most susceptible age, and was also a bit run down and in poor condition owing to the loss of its mother.

One would have expected the immunity of mules to be about half as strong as that of horses; yet those two mules must have possessed a very high degree of immunity, as not only were they running in the same yard with animals in all stages of the disease, they were also twice daily feeding from the same trough, and rubbing their noses against the noses of the diseased donkeys, many of which had a nasal discharge.

As noticed above, age appeared to have considerable influence on the disease. For example:—

Out of 11 colts present under one year old, 11 were attacked by the disease, or 100 per cent.

Out of 29 colts between one and two years old, 11 were attacked by the disease, approximately 38 per cent.

Out of 18 colts between three and four years old, six were attacked, or approximately 33 per cent.

Out of 19 colts, over three years old, four were attacked, or approximately 20 per cent.

The temperature charts of donkey colts Nos. 295, 276, 321 and 266 were typical of the various forms

taken by the disease.

Nos. 295 and 276 were both severe cases. Probably both had high temperatures some days before they were noticed to be ill. Both fed well throughout their attacks, but both lost condition very noticeably.

Colt No. 266 was considerably older and was in extra good condition. He overcame the disease much more rapidly; symptoms of dyspnæa were noticeable on the 26th, but were never very marked.

Colt No. 321, only six morths old, was much more severely attacked. His temperature was just under 105° F. on the 23rd, and for ten days remained abnormal with a downward tendency, but on the tenth day rose to nearly 106° F., and by the eleventh day he had developed all the symptoms of the disease. After nine days he appeared to be well on the road to recovery, and then unaccountably relapsed. He eventually made a good recovery.

R. Branford, M.R.C.V.S., I.C.V.D.

POST-MORTEMS.

Cat, aged eight years, in a very emaciated and impoverished condition, anæmic, suffering from sickness, and occasional diarrhæa: was requested by owner to destroy the animal, owing to unfavourable prognosis; a growth being plainly perceptible upon examination of the abdomen. After death a growth about the size of a walnut was found to be present in the mesentery. Its nature was undiscovered, but was probably tubercular in origin.

*Case II. Airedale terrier, six years of age, said to have been ailing some time with sickness and diarrhœa; no evidence of anæmia, and the general condition was fairly good, but it suffered from intense thirst. The abdomen was pendulous, in fact appeared to be suffering from ascites, at least this was my diagnosis. Owing to this pendulous or distended condition, manual examination of the body contents was rendered impossible, Destroyal was requested in the absence of favourable prognosis, when post-mortem examination failed to confirm my diagnosis of ascites, the entire cause of the trouble being a chronic enteritis involving several inches of the ileum. This was readily evidenced upon the peritoneal surface, whilst the mucous lining was intensely inflamed and ulcerated, and the bowel wall much thickened. The pendulous condition of the abdomen I have been quite at a loss to account

Case III. Retriever. I had known this animal for quite six years, and been frequently called upon to attend it. I was surprised when requested to destroy it, and was much struck by the helpless and emaciated condition, the symptoms being described as those of the two preceding cases—sickness and diarrhæa. Through the abdominal wall could be detected the presence of a small growth. Post-mortem examination revealed several small tumours about the size of beans in the substance

of the spleen.

Case IV. Fox terrier bitch, aged about eight years. I had known this animal several years; it was said to display lately rather peculiar symptoms indicative of some sudden, sharp, internal pain, was illustrated to me by following a short distance behind the dog and her owner, when about every fifty yards or so she would stop dead still, elevate the right hind leg, at the same time turn the head round towards the flank on the same same side, and remain in this position for nearly a whole minute, the position and expression of the animal indicating pain. Upon resuming the walk the same performance was again gone through. This case puzzled us considerably, and treatment of course proved of no avail; the latter was directed to the relief of what we thought to be intestinal colic, and raw meat daily, minced, with brown bread was advised, instead of the mixed diet she had been formerly receiving. The case hung on for weeks, but still the symptoms continued. Exploratory laparotomy was suggested, to endeavour, agreed to, and the animal was at last destroyed.

The only pathological lesion discoverable upon post-mortem examination was a very large cystic ovary, curicusly enough on the right side; but whether this accounted for the curious behaviour one can feel no great certainty; personally I am inclined to the view that it did. The owner upon learning the result regretted that he had not agreed

to the operation,

Case V. Fox terrier, 13 years old, treated from time to time for an ulcerating growth—an anal adenoma apparently, Latterly he showed grave signs of illness-wasting, and suffering from a terrible thirst: water was supplied ad lib. and within easy reach: when not drinking he was sleeping in a dazed condition in his basket, well supplied with hay, and urinated eopiously and frequently in his bed. The eyesight had latterly become affected senile or diabetic cataract of both eyes. At the owner's request he was despatched. Expecting to find some further metastatic growths in one or more of the internal organs, as had been my previous experience of these cases, I was this time mistaken, the only lesions apparent being a chronic nephritis (interstitial) showing all the macroscopic characters: and a chronic cystitis, the lining membrane of the bladder exhibiting a patchy, raw ulceration here and there, with thickening of the walls of this organ.

Case VI. Retriever, 12 years old, a long sufferer from interdigital abscess, which I had been called upon to treat from time to time over a period of several years, was suddenly discovered to have developed—as the owner described it—a cauliflower-looking growth upon the under surface of the body. This growth had a well defined base, was about the size of a walnut, and could easily have been removed. The owner, however, fearful of operations at all times, thought it better to have him destroyed.

Post-mortem examination. All the organs healthy with the exception of the spleen, which contained in its substance about ten small prominent rosy-red growths. These upon being examined by a pathologist could not with certainty be classified.

Case VII. Collie, badly affected with ascites, body pendulous and distended, whilst under cover of the ribs could be felt an enlarged liver. The animal was not in the least emaciated, its condition was really good, and an absence of anemia, whilst the legs were not adematous. Only symptoms shown were those of distress upon exertion, and the heart sound were normal. Port-mortem revealed sarcoma of liver. "Canis Major."

CLINICAL CASES.

By J. H. PARKER, M.R.C.V.S., Faringdon, Berks.

FŒTAL DYSTOKIA.

bread was advised, instead of the mixed diet she had been formerly receiving. The case hung on for weeks, but still the symptoms continued. Exploratory laparotomy was suggested, to endeavour, if possible, to discover the cause, this was not agreed to, and the animal was at last destroyed.

Asked to see a four-year-old Shire mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare with an interpolation of the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare with an interpolation of the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare with a supplication of the had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare with a supplication of the had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare with had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare which had foaled but "had something hanging out of her. Thought it was her breeding bag." Found the mare with had something hanging out of her.

yard long and containing about a quart of fluid. exceeds 100.5° F. to 100.8° F. after an injection. If The time the groom was bringing hot water, I the injections are repeated many times, the only debated whether it was the urinary bladder, or a cyst of feetal membrane. A manual examination which surround the jugular. proved it to be the fætal membranes of another foal, which was coming backwards. I could feel it appears to be preferable to inject a large quantity the points of both hocks and in between them of the drug at first, rather than to use small reanother foot, and thought I was going to meet a peated doses. Three grammes are injected at first; monstrsity. mare gave a heave, and foal and membranes and all were ejected. The foot between the hocks was the off fore, that leg being bent under the abdomen | may be given. - (La Clinica Veterinaria).

of the foal and pointed backwards.

Case II. I was called to a mare which had been in labour for six hours: found the two fore legs protruding as far as the fetlocks, and the mare's urinary bladder slung beneath. Tried to replace bladder, but without effect; manual examination showed the head to be turned round and I could just touch the poll: but every time I touched the poll the mare heaved violently and squeezed my arm between the womb and foal's legs. As we could not move the foal, I amputated the right leg at the knee. This allowed me to get a blunt hook into the angle of the mouth and turn the head round: delivery was then easy. I next replaced the bladder which went back quite easily with a The mare was swollen at bearing, and very stiff and sore for three days, but recovered quickly afterwards.

FISTULOUS WITHERS IN A COW.

I have a six-year-old shorthorn cow which has a typical fistula on her withers. There are three sinuses. I mean to extirpate it at first chance.

LACTATION AT BIRTH.

A Shire filly foal, one day old, had milk in both halves of her udder, and I drew out nearly half a pint.

TUBERCULIN TESTING—A QUESTION.

I tested an eighteen-months-old shorthorn bull three months ago, and he gave a characteristic reaction. Tested him again last week and he did not give the slightest sign of a reaction. Is tuberculin curative?

ABSTRACTS FROM FOREIGN JOURNALS.

GALYL IN TREATMENT OF EPIZOOTIC LYMPHANGITIS.

Truche and Guignard in Le Recueil de Médecine recover. Vétérinaire, call attention to the action of Galyl, which Prof. Douville uses in the treatment of epivery similar to salvarsan and neo-salvarsan; and, according to a good number of researches, its specific action in epizootic lymphangitis appears to injected into the veins in doses of from one gramme

effect is a slight fibrous induration of the tissues

As regards the modus operandi of the treatment, Turning one of the legs round the and the dose is repeated after an interval of eight days. If a cure is not obtained after the first two injections, another injection of one or two grammes

CHATELAIN'S TREATMENT FOR EPIZOOTIC LYMPHANGITIS.

In the French army, as also in the Italian, epizootic lymphangitis is extremely prevalent; and

various treatments for it are adopted.

Nicolas, in Le Recueil de Médecine Vétérinaire, describes Chatelain's method of treatment, which is based on the use of copper sulphate. This treatment is purely local, is easy of application, especially in the field, and is capable of causing unexpected recoveries. Chatelain summarises it as follows, dividing into two stages. First, the abscesses are opened with the cautery, the pus is liberated, and a crystal of copper sulphate, the size of which should be regulated by that of the lesion, is introduced into each of the puncture-orifices. Second, the affected region is circumscribed by a series of separate injections of an aqueous solution of tincture of iodine, made with a Pravaz syringe.

As the second stage of the treatment presents some inconveniences, Nicolas has replaced it by another measure. He circumscribes the region with punctures of the cautery, 10 centimetres apart, and introduces a small crystal of copper sulphate

into each puncture.

In consequence of this treatment the affection remains localised, the furunculi are reabsorbed, the abscesses are cicatrised, and the swelling of the lymphatic cords disappears. The animals should, hewever, be watched; so as to be able to immediately re-cauterise with copper sulphate the ulcers which do not begin to dry and cicatrise, and to subject to treatment every furunculus that is about to form.

The lesions which lend themselves best to treatment are those of the head, the neck, the upper part of the body, and the anterior limbs. In these cases recovery may be effected in from two to three weeks. Lesions of the posterior parts of the body are more difficult to treat, and take longer to

As very little is yet known of the mode of transmission of epizootic lymphangitis, general prophyzootic lymphangitis. Galyl is a chemical product lactic measures should be rigorously applied. The affected horses should be put in a place from which they should never be allowed out upon any pretext before recovery. The veterinarian should carry out be as certain as that of salvarsan in syphilis. It is the treatment himself, using a fresh piece of wadding for the dressing of each ulcer, and then burnto three grammes; and it causes neither a general ing all the wadding used for this purpose and nor a thermic reaction. The temperature never sterilising the instruments with the flame. Cases of ulcerous lymphangitis should also be held as suspicious, and should be treated as if they were cases of epizootic lymphangitis. Disinfection should be carried out along the lines followed in the case of glanders.—(La Clinica Veterinaria).

W. R. C.

THE CENTRAL VETERINARY SOCIETY. [NATIONAL V.M.A. SOUTHERN BRANCH.]

An ordinary meeting of the Society was held at 10 Red Lion Square, London, W.C., on Thursday, June 7, Mr. N. Almond, President, in the Chair.

The following Fellows signed the attendance roll:— Prof. G. H. Wooldridge; Messrs. J. B. Buxton, F. W. Chamberlain, A. E. Gostling, H. D. Jones, J. W. Mc-Intosh, E. Lionel Stroud, J. Willett, and Hugh A. MacCormack, Hon. Sec.

On the proposition of Mr. J. Willett, seconded by Prof. Wooldridge, the minutes of the last meeting were taken as read and confirmed.

Letters regretting inability to be present were announced from Mr. R. J. Foreman, Mr. Heatley, and Mr. W. S. King.

DEATH OF MR. C. E. WELLS.

Mr. J. WILLETT said he had received through Mr. W. S. King news of the sad death of one of the Fellows —Mr. C. E. Wells, of Leman Street, Whitechapel. Mr. Wells was performing an operation two or three days ago when the horse kicked him in the head. He remained unconscious until his death, which had taken place that day. Mr. Wells was well known to every Fellow, and everyone that knew him liked him. He proposed that a vote of condolence and sympathy should be passed with Mr. Wells' family, that a wreath should be sent, and that a deputation of the Society should attend the funeral.

Mr. McIntosh seconded the motion. He said he had known Mr. Wells for many years, and he agreed that in every respect he was a most conscientious member of of the profession and a gentleman who had the highest respect and esteem from all who availed themselves of his services. The Fellows were deeply pained to hear of

the sad and unexpected death.

The motion was carried by the members standing. On the proposition of Prof. Wooldridge, seconded by Mr. E. L. Stroud, the following were nominated to attend the funeral as a delegation:—Mr. W. S. King, Mr. J. Willett, Mr. McIntosh, the President, and the Hon. Secretary, if they could manage to attend.

Prof. Wooldridge pointed out that that would not prevent other Fellows attending, if they could do so.

Owing to a misunderstanding, an exhibition of helminthological specimens, which were to have been shown by Dr. Leiper, was not able to be proceeded with, as Dr. Leiper was absent from the meeting.

Prof. WOOLDRIDGE pointed out that it was only a pleasure deferred. Dr. Leiper had been working on a Commission in Egypt and China in connection with certain parasites, and it was in relation to some of his

discoveries that the specimens were to be shown.

Nomination. Captain J. T. Edwards was nominated by Prof. Wooldridge, seconded by Mr. J. Willett, and will come up for election at the next meeting.

INTERESTING CASES.

Mr. J. WILLETT said he had a chestnut cob of the polo pony type which was admitted to the hospital with a cracked heel on the off hind leg. When being trotted before returning to duty, he trotted with the near hind excellent result, and said that even the inoculation of a

was fractured. There was no pain or swelling in the limb whatever, but when he walked the gastrocnemius tendon was bunched up. The leg could be moved backwards and forward like a well-oiled hinge. The animal walked with a perfectly straight leg, and upon turning round the leg gave inwards from the hock downwards.

Prof. WOOLDRIDGE said some of the symptoms suggested that form of lameness associated with the flexor metarsi muscle, with strain of the tendinous portion or injury to the muscular portion. The limb from the hock downwards as a rule was carried more or less like a wooden leg, and as the horse walked forward there was incoordination in the flexors and extensors which produced that effect. The tendo achillis was generally flaccid. A similar train of symptoms could sometimes result from injury either to the patella or straight ligaments of the patella. That interfered with the extension of the stifle and at the same time interfered with the coordination of the flexion of the hock and threw the gastrocnemius out of operation at the back of the

Mr. WILLETT said he had thought the whole time it was the flexor metatarsi, but he expected to find a

certain amount of pain.

Prof. Wooldridge said acute pain was not always associated with the case although there was usually some pain. A rather ingenious line of treatment had been suggested by Mr. James McKenny, of Dublin. In order to keep the toe and point of the hock extended he put on a strap above the hock, with a ring in front, and a shoe with a toe stay with a D, and he attached the ring by means of a rubber band like a tourniquet between the two places, so that when the horse walked it automatically brought the toe forward every time. The horse was then put in slings and did quite well. It was not, however, essential to use that apparatus, as re-recovery could be obtained without, but it seemed to expedite the case.

Mr. Willett said the question was whether it was

worth while treating the case, having regard to the present expense of feeding.

Prof. Wooldridge said that polo ponies were generally fairly valuable, and he did not think it would cost more than £5 a month in the next three months, including establishment charges.

Mr.\WILLETT also mentioned the case of a horse which was being ridden in a riding school and just as the rider was bringing the sword to the carry, the horse turned its head and caught its eyeball at the lower edge.

When he saw the animal the lens was half in the eye and half out. Not wishing to amputate the eyeball, he chloroformed the horse, put the lens in and stitched the eyeball. The horse was blind, but the condition was not nearly so unsightly as if the eye had been amputated. It now looked exactly as though the whole eyeball had been involved in a cataract. The lens was in the anterior chamber just behind the cornea. The case did remarkably well. The animal was kept under cocaine and sulphate of zinc, two grains to the ounce, the whole time. The eye was bandgred. Silk sutures the whole time. The eye was bandaged. Silk sutures were used. The animal had now been working about a month. The wound took about five weeks to heal. The discharge had not been excessive, and gradually decreased. The sutures were left in for eight days. The first dressing was removed on the following day.

The President said he usually allowed such cases to

go with the first dressing for 48 hours.

Mr. WILLETT said that would be so with an ordinary wound, but not in a case where the pain was intense. He used a 10 per cent. solution of cocaine. The horse was not off its feed all the time. He was kept about a fortnight standing, and fed in that way.

leg lame, and it at first appeared as though some bone very small amount of infective material into the anterior

chamber of the eye was almost like inoculating a culture, and it seemed inconceivable that the lens could be luxated and returned without some effect on the aqueous. humour. After the event one could always think of other things, and the suggestion came to him that it would not be a bad job if, before returning the lens, the capsule had been punctured in a crucial manner so that it would ultimately have become absorbed, as was done for cataract sometimes in the human being.

Mr. WILLETT, replying to a question, said there was always a discharge from the wound, as the sutures were not put very close together. The size of the wound was about 1 in. to $1\frac{1}{4}$ in., and four sutures were put in.

Prof. Wooldridge mentioned a case which he said showed that one need not despair of cases that looked at first hopeless. It was the case of a half-bred bitch, the size of a small collie, probably a half-bred retriever and collie, but very small for the cross. She was and collie, but very small for the cross. Sne was exceeding weak and had to be carried when brought to the College clinic. She was about twelve years old, was very thin, and the abdomen was distended; on examining the vulva there was a lead-coloured discharge, not very copious, only a few drops could be squeezed out when the vulva was pressed backwards. He diagnosed chronic metritis, and suggested to the owners that the only possible change of recovery to the owners that the only possible chance of recovery was by surgical removal of the uterus, but that the bitch was in such a very weak condition that he doubted if she would survive the operation. He removed the uterus, which was the largest and most distended he had ever seen. The interesting feature, apart from the apparent partial collapse of the bitch to begin with, was the fact that after removing one ovary and ligaturing the ovarian end of the uterus and pulling it out, he proceeded to take the other one—the size of the horn was about the size of a forearm—and as it was being held up to support it, the ligature was unfortunately forced off by the weight of the contents, which suddenly flooded the whole area, including the operation area. He quickly took antiseptic swabs and mopped off all he could, and took good care to mop out the lips of the wound and any material he could find that had percolated into the operation area. He did not think it was possible with that contamination that the bitch could survive, but to his surprise she was making an absolutely perfect re-covery. She was very weak for a couple of days, but after that she came on to her feed, and was now feeding well, and the wound was healing remarkably well. He took the specimen into the laboratory, and Captain Edwards very kindly made smears from the contents, and verified his suspicions. He told Capt. Edwards he expected he would find some of the bacilli of the colon type, and that is what he found were present in what appeared to be an almost pure culture. In old cases where there was bad distention the interior of the uterus was often thickened and corrugated. In early stages a very large number of very tiny cysts could be found right away along the uterine wall.

Mr. Buxton asked whether Prof. Wooldridge could offer any clinical suggestion for the comparative frequency of cases of metritis due to bacillus coli in the dog, and occasionally in the horse, as compared with its

relative rarity in the human subject.

Prof. Wooldrige was afraid he could not account for presence of the organisms at all. Although it was not invariably the case, most of such cases occurred in bitches that had never had a whelp, and the majority of them were not less than seven or eight years old. Occasionally they were met with in bitches younger than that, and sometimes a year or two after they had had the last litter of puppies. He believed this particular bitch had puppies about three years ago, but none since. Until he had met with one or two cases where there had been puppies, he was under the in the horse.

impression there might be a stricture of the os uteri, which would account for the accumulation of liquid, and infection may have been accidentally caused by way of the blood stream, but he was absolutely at a loss to account for the origin of such cases. The uterus contained about two quarts of purulent material of a pale chocolate colour.

Mr. E. L. STROUD said he had a somewhat similar case in an eight-year-old red spaniel bitch, which was said never to have had puppies. She had the discharge for some time. Injections had been used for some time before he saw her, and when he was given the history he suggested removing the uterus, which he did. It was full of purulent material, and the walls were very much thickened. When he opened the uterus he found the remains of a fœtus there, much to the owner's

surprise.

Prof. Wooldridge said in one or two cases he had found a condition similar to that Mr. Stroud had described, but in very few such cases was there ever anything suggesting the remains of a fœtus. As to treatment, in one or two early instances he had very good results from the use of a vaccine, prepared by Mr. Buxton, of colon bacilli of canine origin. In very advanced cases where the uterus was much distended, operative treatment was the only course. The difficulty was an early diagnosis. One of the first things the bitch showed was a little quivering of the abdominal muscles when manipulated, but there was no other show of pain afterwards. There might be an occasional vomiting once in two or three weeks, and sometimes there was more frequent licking of the vulva than would be expected. At other times, when the bitch sat on stones or linoleum she left a wet, slimy patch. Those symptoms could be easily confused sometimes with cystitis. In one instance he went up to Scotland to operate on a bitch which he had seen about a fortnight before. It was not very bad, and he tentatively diagnosed metritis. When he came to operate, and removed the horns of the uterus, he found them not as thick as his little finger. There did not seem to be much wrong with that, but on removing the uterus he found that right from the junction of the two horns up to the ovaries on each side there was an agglomeration of small cysts so closely packed together that the butt end of a pencil could not be placed on the uterus without coming into contact with a cyst. Some were hæmorrhagic, and some contained only a clear serous liquid.

Mr. McIntosh said that some time ago he had a horse which showed some slight indications of impaired health, but as he did his work without any apparent inconvenience little was done further than to keep him under observation and modify his amount of work. As time went on it was evident the animal was losing condition, and the driver reported that he appeared dull, and at times seemed to have a difficulty in passing water. As a further examination revealed nothing very definite, he had the animal put off work and gave him a run at grass, in the hope that this might restore him to health and condition again. Suddenly he developed an acute attack of colic, and on making a more searching examination per rectum, he was able to locate a tumour of enormous size. The animal was destroyed, and a postmortem revealed a huge growth involving a portion of the large intestine, the bladder, and practically the whole of the posterior part of the abdomen. It weighed 49 lb. Growths of a similar nature were found on the posterior aspect of the diaphragm and along the peritoneal wall. Sir John M'Fadyean kindly made an examination, and reported that it was a carcinoma of the columnar type, and he was of opinion that it had its

origin in the stomach. Another interesting case was one of fractured pelvis The animal when coming out of the

stable, and in going down a slope dropped lame on the near hind leg, and seemed to lose the power of the leg altogether. He diagnosed a case of fractured pelvis and had the animal destroyed. Two days previous to this the horse had been backing a very heavy load, when he slipped and went down behind, he recovered himself again, and beyond a little stiffness just after the accident nothing was noticed, and it delivered the load six miles away. The following day it went to work again with no apparent ill effects from the injury. The remarkable thing was that notwithstanding the extensive fracture the horse was able to deliver the load, and work that day and the following day, and show no apparent inconvenience as far as the driver could observe.

Prof. WOOLDRIDGE said the second case might turn out to be of very great service in legal questions. Sometimes the question of a deferred fracture might lead to serious complications from an insurance point of view.

The PRESIDENT thought the importance of the case ought to be emphasised, especially as there were so many insurances which were based upon accidents occurring during work. The case was one where, under ordinary circumstances, the owners would have lost the insurance unless it could have been proved that the fracture had occurred two days before.

The President said he had a case which had a bearing upon the insurance question. A horse belonging to a contractor had a fall while at work in a road where there was a raised pavement, and the horse struck his head on the edge of the raised pavement. It got up and went on without any symptoms, but twenty-four to forty-eight hours afterwards it showed head symptoms and colicky symptoms. In another twenty-four hours it became quite violent and was destroyed. The contractor had an insurance policy on it, but the policy only had effect if the accident occurred during work. The next day the owner reported the accident to him. On post-mortem examination lt was found that there was practically fracture of the skull, and, with the history of the case before him, he reported it as a case which he thought was entitled to insurance, and eventually the insurance was paid.

Prof. WOOLDRIDGE reported the case of a horse on which he operated for carcinoma of the penis. The The operation took place three months ago, and although he amputated the penis about two inches beyond the apparent limits of the growth, there was to-day a suggestion of recurrence on the stump. There appeared to gestion of recurrence on the stump. There appeared to be no stricture forming at all. He was afraid nothing more could be done, but the horse would simply go on with his work until he was eventually destroyed.

Mr. J. WILLETT proposed that the next meeting, in

July, should be suspended this year, owing to such a number of the Fellows being away, and the attendance likely to be sparse. Mr. Buxton seconded the motion. Prof. WOOLDRIDGE opposed, as he believed in "keep-

ing the flag flying."
The motion was carried with two dissentients, six

voting in favour.

Mr. WILLETT also moved a vote of thanks to the President for his conduct in the chair during the year. The meetings might have lacked in numbers, but there had been no lack of discussion.

Mr. McIntosh seconded the motion, which was car-

ried unanimously.

The President, in briefly responding, hoped that the next session would be more successful than the present one from every point of view. He hoped by that time peace would have arrived, and that the men at the front would have returned.

HUGH A. MACCORMACK, Hon. Secretary.

Reconstruction of the Public Health Service.

To the Editor of The British Medical Journal.

Sir,—Anything more remote from practical politics than the scheme of reconstruction of the Public Health Service adumbrated by the Council in the Supplement

to The Journal of May 5th can hardly be conceived.

Take, for example, the constitution of the local authority for public health administration. "The local administrative health committee should consist of representatives, (a) of the rating authorities, (b) of the education authorities, (c) of the persons contributing to a scheme of health insurance (including in this employers of labour), (d) the medical profession, (e) public hospitals, (f) dentists, (g) pharmacists, and (h) nurses."

Does the Council for one moment imagine that the electorate will surrender their right of electing their representatives to manage their affairs in order to establish the hybrid body which is suggested? If they do they much misjudge the mentality of the electorate.

Then, is the Council unaware that the most pressing

problem of public health administration is that of housing and town planning, with all that is involved in the latter phrase? For the solution of that problem their scheme makes no provision and yet it is funda-

mental.

There are to be "representatives of the rating author-There are to be representatives of the lating atthou-ities." What "rating authorities"! "Representatives of the education authorities"! Why? Their business is education, and it is a big enough business in all conscience at this juncture. There are to be representconscience at this juncture. There are to be represent-atives of "dentists" and of "pharmacists." But in the body which is to have control of dairies and dairy herds there is to be no representative of the veterinary profession; in a body which will be charged with the administration of the Food and Drugs Act, why—on the lines the Council have adopted—no representative of the Society of Analysts?

Anyone who has had any practical experience in local administration knows that, given large enough areas, a board consisting of practical business men, with competent professional advisers, is calculated to do the best work, and is most consonant with the genius of the nation. The "Committee" the Council proposes to establish would constitute an excellent debating society, but as an administrative entity it is beneath

contempt.
"The administrative functions of the Ministry of Health should be carried out by a board"! I fancy the country will prefer a Minister of Health solely and individually responsible for the public health adminis-

tration of the country, to a glorified debating society.

But the whole scheme is a farrage of impracticability. I am, etc.,

A. CAMPBELL MUNRO, M.B., M.R.C.P. ED., D.SC. Paisley, May 22nd.

Warranty-The question of ring bones.

At the Redhill County Court, on Wednesday, June 27, before his Honour Judge Mackarness, Frederick George Slingsby, Walden New Road, Croydon, sued Thomas King, farmer, Brewer Street Farm, Bletchingley, for £97. It was claimed that by a verbal contract entered into on the 19th March last the plaintiff agreed to buy from the defendant a horse for the sum of £97. This sum was paid to the defendant, and the horse remained in the possession of the defendant. It was also alleged that at the time of the contract the defendant represented to the plaintiff that the horse was sound. The horse was not sound, said plaintiff, who therefore repudiated the contract, and demanded the £97. Mr. F. O. Robinson, instructed by Mr. R. J. Clark, of

Croydon, represented the plaintiff, and Mr. Horace Douglas, instructed by Mr. T. Bacon Phillips, appeared

for the defendant.

Mr. Robinson said the plaintiff was the manager of a wholesale butcher's business and did a little horse deal-On 17th March he visited Brewer Street Farm with Mr. Brennan, a butcher, of Croydon, and saw a five-year-old gelding. Mr. King asked 100 guineas for the gelding, but eventually £97 was the agreed sum which plaintiff paid to the defendant. It was arranged that the horse should remain on the farm for several days to complete some particular work. Mr. King warranted the horse to be sound and a good worker. On March 31st, Mr. Alfred Glover, veterinary surgeon, examined the horse and certified that it was suffering from side bones. There was some correspondence between the parties, and plaintiff asked for the return of the money.

Prof. James Macqueen, of the Royal Veterinary College, spoke to examining the horse on 16th June. He found it had side bones on both fore feet, gummy heels, and an enlargement of the hind pasterns.

defects showed that the horse was unsound.

Cross-examined, witness said the side bones might lead to lameness and depreciate the value of the horse. The horse also roared and grunted. Gummy heels usually led to greasy heals. It was apparent to anyone who knew anything about a horse that the gelding had side bones. They were discernible to the touch.

In reply to further questions, Prof. Macqueen said Mr. Douglas's questions surprised him, to which his Honour remarked, "That is often the effect on persons under cross-examination." Continuing, witness said the gelding was a pretty bad roarer. There were a large number of horses which were technically unsound, but that did not interfere with the usefulness of the horse. He thought that gummy heels were due to a parasite.

All horses with gummy heels were unsound.

Plaintiff spoke to visiting Brewer Street Farm on 19th March with Mr. Brennan. The horse was in the stable and he went along side of him, but did not thoroughly examine him as he was covered with soil. Mr. King asked 100 guineas for the gelding, and they went into the house. They returned to the stable, and Mr. King's son-in-law was with them. From the stables they went to the Plough. He eventually agreed to give £97 for the horse. Defendant assured him the gelding was sound and a good worker, and when he handed over the money to him he said to defendant. "You understand I am buying a sound and good worker," and he said "Yes." When he received Mr. Glover's report that the gelding had side bones he asked for the return of his money.

Cross-examined: He was going to sell the horse to a timber merchant, and wanted the veterinary surgeon's certificate as to soundness. Questioned as to the vartious conversations which took place in the stable and the Plough Inn, witness was certain that Mr. King war-

ranted the horse as being sound.

Edward Brennan, butcher, Lower Addiscombe, Croydon, gave corroborate evidence, and said when the money was paid by the plaintiff he remarked, "You thoroughly understand, Mr. King, what you are doing? and he replied "Yes."

Cross-examined, defendant certainly said the horse

was sound.

Charles Ranford, horse dealer, New Cross, said he visited Brewer Street Farm, in February, and saw the gelding. Mr. King asked 100 guineas for the horse. After he made an examination he told Mr. King the gelding had side bones.

Mr. Brennan, re-called, said he heard the last witness

tell defendant the horse had side bones.

Mr. Alfred Glover, veterinary surgeon, Godstone, said at the request of the plaintiff he examined the horse on of the alimentary canals of cattle, sheep, and poultry

31st March. There were small side bones on both fore feet. With that exception the horse was sound. He

did not detect any gummy feet. In reply to Mr. Douglas, witness said side bones were present in 50 per cent. of cart horses. Side bones did

not detract from the usefulness of cart horses By the Judge: There was little danger of the gelding going lame. At the time he examined the gelding if sold by auction and without a warranty he might have realised £100. In a private bargain £97 was not an unreasonable price for the horse if a good worker.

Defendant said the gelding was a pedigree animal and he bought him about twelve months ago. When plaintiff examined him in the stable nothing was said as to the soundness of the horse. He asked 100 guineas for the gelding. When they got to the Plough Inn they agreed upon £97 as the price, and plaintiff said something about a warranty. He said he would give no warranty, but as far as he knew the horse was sound. There was no conversation about taking the horse back, but he did say to plaintiff if he was not satisfied he could have the money back there and then. He gave £60 for the gelding. It was not true that Mr. Ranford saw the horse in February and told him it had side bones. He gave no warranty with the horse, but told plaintiff he was sound so far as he knew.

Mr. Howarth, veterinary surgeon, said he had examined the horse that morning. Technically the horse was unsound, but he would not stop him for the small side bones. He did not think the horse would go lame. Lameness was associated with ring bones. Half the the horses called sound horses working on the roads

had side bones.

Thomas Charlwood, Brighton Road, Redhill, spoke to seeing the horse in March. He noticed he had slight

side bones, and offered £85 for him.

His Honour said the first question they had to decide was—was a warranty given, as alleged by the plaintiff and his witnesses. He thought a warranty was given, and that being so the question arose, could the contract be rescinded or should the plaintiff be compensated for the damages sustained. Having reviewed the evidence, his Honour said the question arose as to what was the value of the horse in March. They had it that Mr. Charlwood, who knew of the presence of the side bones, had offered £85 for the horse. He therefore thought it would be safe to give judgment for the difference between £85 and £97, the money paid. Judgment would therefore be given for £12, and plaintiff would take his horse.—Surrey Mirror.

Feeding stuffs.

The following is from the half-yearly report by the chemist, Dr. Tocher, which was read at the recent meeting of the Highland and Agricultural Society:

"I have to report that during the five months ending 31st May I have examined over 70 samples of fertilisers, feeding stuffs and other articles sent in by members for

Among the feeding stuffs examined were several samples of bean meal, ground nut cake, Russian linseed cake, potato flour and compound cakes. A sample of wheat germ was found to contain 11.2 per cent. of oil or 29.9 per cent. albuminoids. A sample of earth nuts, or monkey nuts, from part of a cargo which had been washed ashore was analysed, and was found to contain 27.4 per cent. oil and 16 per cent. albuminoids. The consignment had suffered little damage and was quite

fit to be used for feeding purposes.

A number of samples of stomach contents and parts

were sent in for the purpose of determining the presence

or absence of poisons.

Several valuable ewes nursing big healthy lambs died within forty-eight hours after having been shifted from a field, where they had been grazing for some time, to another field where they were fed with dried grains and cake in addition to grass. The stomachs and intestines of some of these ewes were examined for arsenic, lead, and alkaloidal poisons, with negative results. The contents of the various stomachs were found to have a distinctly acid reaction, the acid amounting to 2.5 per

cent. expressed as lactic acid.

The mixture of dried grains and undecorticated cake used was sent in for analysis, and was found to possess a high degree of acidity, as much as 3.2 per cent. of lactic acid having been found to be present, other acids being also present in minute quantities. The acidity of the grains was due to the action of lactic fermenting organisms upon the sugars normally present in this par-ticular feeding stuff. Whether the fermentation was promoted by the presence of cotton cake or not is a matter for further investigatiou. The effect of such abnormal bacterial action and resulting acidity on the digestive tract of sheep is a problem for the veterinary physiologist to consider, but it is easy to see that the normal activities of the stomachs of sheep would be suspended and that death would result simply from impaction or in other ways. In any case I reported that, acidity and abnormal bacterial action in the feeding stuffs given were in my opinion the most probable cause of death, but that the facts, as ascertained by me, should be placed before veterinary experts for their consideration and final judgment.—N.B.A.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:

Officers of No. 7 Res. Vety. Hptl.,	Lath	om	Pa	rk :	_	
J. W. Brittlebank, Maj. A.V.C.	£1	1	0			
E. Evans, Capt. A.V.C.	1	1	0			
J. McR. Frost, Capt. A.V.C.	1	1	0			
F. C. Golden, Capt. A.v.c.	1	1	0			
G. H. Ward, Capt. A.V.C.	1	1	0			
J. D. Whitehead, Capt. A.v.C.	1	1	0			
R. D. Williams, Capt. A.v.c.	1	1	0			
	-	_	-	£7	7	0
J. W. Godwin, Brevet-Maj. A.V.C				1	1	0
W. N. Jürgenson, Maj. A.v.c. (1916,	191	7)	2	2	0
H. Mason, Cairo, Egypt				1	1	0
A. A. Pryer, D.S.O., Capt. A.V.C.				1	1	0
A. E. Roberts, Capt. A.v.c.				1	1	()
J. M. Smith, Capt. A.v.c.				1	1	0
M. P. Walsh, Maj. A.V.C.				1	1	0
Previously acknowledged				759	17	0
			100			

The R.S.S. Examination.

A very successful and certainly the largest examination ever held of the students of the London Farriery Classes, was held at Totteridge on Saturday, May 5.

Mr. Holmes, A.F.C.L., the instructor of the classes, kindly placed his large works at the disposal of the kindly placed his large works at the disposal of the Examiners, so that a large number of students were enabled to work at one time: also a good supply of horses was available and the candidates were enabled to horse was available and the candidates were enabled to horse was a second to horse was a second to horse which was a second to horse was a second finish their work in good time.

Ten students presented themselves for the R.S.S. examination, and the following passed the tests:— Messrs. Leppard, Webb, Tripp, Thomas, Perrin, Hooper, Akrill, Donald and Rayner.

Mr. Leppard won the Bronze medal of the Worshipful Company of Farriers, presented by the Instructor, for the student obtaining the highest marks in this

section of the examination.

For the Higher Examination there were six candidates, and of this number five succeeded in satisfying the examiners as to their fitness to be placed on the Associates' Register. The Silver medal given by the Worshipful Company of Farriers for the best work done, theory and practical, was won by Mr. Jabez Thomas, and Messrs. Easterbrook, Ogglesby, Belton and Thomas also passed.

The Examiners were Mr. Horace L. Roberts, F.R.C.V.S., of Ipswich, and Mr. W. Jones Anstey, A.F.c. L, lecturer and demonstrator of Farriery at Leeds University and Manchester School of Technology, and every man on looking at his certificate will always be reminded of the fact that he had to submit himself to tests applied by two of the keenest and most shrewd experts in this country in the science of horse-shoeing.-The Farriers' Journal.

ARMY VETERINARY SERVICE.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, June 29.

REGULAR FORCES. ARMY VETERINARY CORPS. To be temp. Capt. :—A. W. Shilston (June 30).

Temp. Lt. to be temp. Capt. :—A. Temple (May 17).

The appt. as temp. Lieut. of J. Leigh, notified in Gazette of Jan. 30, is cancelled.

CANADIAN A.V.C.

July 4. Temp. Lieuts. to be temp. Capts:—J. F. Boswell, E. L. Brown, C. T. Beaven, W. T. Gulbraith, J. D. Hogan, R. Hanagan, A. W. Hopkins, J. B. A. Secord, H. Spearman, H. W. Simpson, W. F. Towill, W. G. Walks, A. C. Wagner, A. D. McAllister, D. McLellan (March 25).

Staff Sgt. W. Denton, 34704, to be temp. Qrmr. with the hon. rank of Lieut. (Apl. 1).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Lieut. to be Capt. : - A. H. Andrew (June 23).

£775 11 0 | The following casualties are reported: --

DIED-Pte. W. Kenyon, 15350 (Hare Hill.)

Pte. F. W. Cryer, 25998 (Bristol.) ACCIDENTALLY KILLED - Capt. J. Primmer, New Zealand A.V.C.

Personal.

Two sons of Mr. J. J. Townsend, veterinary surgeon, in the Army Veterinary Corps.

OBITUARY.

HUGH CLARKE, M.R.C.V.S., M.R.C.S., L.R.C.P., Oaklands House, Ashton-upon-Mersey, Cheshire. Graduated, Edin: May, 1887.

Mr. Clarke died May, 1917.

ELIAS KYFFIN, M.R.C.V.S., Roche Cottage, Abergele, Denbighshire. Lond: April, 1877.

Death occurred 25th June, at the age of 72.

GEORGE PHELAN, M.R.C.V.S., Prospect, Glanmire, Cork. New Edin: April, 1882.

Mr. Phelan passed away in June, 1917.

"VETERINARY SURGEON FINED IN NEWCASTLE."

Sir,—I should be obliged if you could grant me a small space in your valuable paper re the above, as published in

your issue of 23rd June.

The report as it stands is most misleading, and certainly does me no justice at all. In the first place, I was not convicted on evidence: the magistrate's clerk pointed out that "no matter what the evidence might be for the defendant, the service of Form A was conclusive evidence that parasitic mange existed, and could not under any circumstances be controverted." On this ruling I conferred with my solicitor, and told him that my professional witnesses under the circumstances should not be called.

From the standpoint of professional interest I may state that Mr. Parker was the only witness for the prosecution who saw the horses. On my behalf I had in court, Col. Elphick, Mr. T. R. Jarvie, Veterinary Inspector to Gateshead Corporation; Mr. T. F. Finney, Veterinary Surgeon to

Newcastle Corporation Cleansing Department; and Mr. F. Pickering, Veterinary Surgeon, Hexham, who all saw the horses, and in three cases scrapings were taken and proved negative.

Professors Dewar and Wooldridge were there to state what in their opinion the disease was as described by Mr. Parker and as shown in photographs from scrapings said to have been taken from certain horses. The prosecution did not allege that these two professors had no chance of inspecting the horses, Carte blanche was given to all and sundry to inspect at all times. It is certainly curious that these Professors were not asked to inspect the horses. Mr. Parker, in cross-examination admitted that although he took the scrapings he could not identify the horses from which they were procured, and he admitted also that he could not say which contained parasites and which did not.

Mr. Parker on his sworn evidence laid much stress upon the fact "that none of the horses had been properly dressed, dressing being applied only here and there," and yet all the horses—some were described as very bad cases were cured, and liberated under Form B within the re-

markably short time of about six weeks.

There is no mention of Mr. Parker's curious display in court which evoked a stinging rebuke from the magistrate's clerk and a humble apology to the Bench from the deputy town clerk for the inspector's behaviour; nor is there any trace of the kindly advice offered by the magistrate's clerk as to the hope that courtesy will be more apparent in like cases in the future. As Mr. Parker has not seen fit to supplement a one-sided newspaper report with a few facts which have been lost sight of by the reporter, I am taking this opportunity of doing what Mr. Parker is either unwilling or afraid of putting into print.—Yours faithfully,

CLEMENT ELPHICK, M.R.C.V.S.

Newcastle-on-Tyne, July 4th.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.			
		Out- breaks		Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.		
GT. BRITAIN.				1		1		1		1				
Wee	k end	ded June	30	5	10			1	1	51	82	3	43	25
Corresponding	1	1916		9	10			2	4	26	50	4	120	274
week in	1	1915		7	12			3	3	20	44		120	543
		1914	•••	7	_ 9 _			4	12	. 32	49_		92	1248
Total for 26 weeks,	1917			293	336			15	27	1590	3187	383	1412	609
G		1916		318	376	1	24	27	71	1476	3452	177	2615	8085
Corresponding peried in	1	1915		358	401	1		26	40	418	911	156	2532	10777
	- (1914	•••	441	471	. 11	74	53	142	, 1380	2456	1 147	2188	22571

† The Parasitic Mange Order of 1911 was away and define the August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, July 3, 1917.

† Counties affected, animals attacked:—Middlesex 1

Excluding outbreaks in army horses.

I ELAND. Week ende	ed June	30							Outbreaks 1	3	3	26
	(1916								3	5	5	19
Corresponding Week in	1915 1914				:::	:::			3	5 5	ï	1 28
1 otal for 26 weeks, 1917			3	5			1	1	29	223	141	930
	(1916			6	7.7				37	226	159	884
Corresponding period in	$\begin{cases} 1915 \\ 1914 \end{cases}$		1	1 1	75	955		3	36 49	254 347	140 116 .	822 643

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 2, 1917

Note.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1514.

JULY 14, 1917.

Vol. XXX.

THE COUNCIL MEETINGS.

The proceedings last week were long, but on the whole not particularly important. Some subjects, at any rate, provoked longer discussion than would

seem to have been necessary.

Distinctly the most important decision taken was the re-election of the President. There was one very regrettable feature of the election, but every thinking man will endorse the action of the Council. We are now in a period of unprecedented difficulties, which are more likely to increase than to lessen in the coming months. We have a President of remarkable ability and energy-probably as good a one as we have ever had throughout the seventy-three years of our corporate life—who possesses also the advantages of three years exper-ience of office and intimate acquaintance with our present position and circumstances. No man could have done better for us than he has done in the past; almost any other man, taking up his work to-day without his special advantages, might fall short of the standard which we know he will be able to reach. His election was more than justifiable. No other course would have been so safe; and that consideration rightly superseded all others.

The financial report and discussion only emphasise the old moral. Voluntary subscription alone can keep the College going; and we have not yet

done all that is needed.

There are items in the proceedings that suggest interesting future developments. One is that Mr. Barrett's attack upon the standard of the Fellowship examination has been set down for full investigation along the usual official lines. This question need not have been brought before the profession last month; but, as it was so brought, we expect to be told how it terminates. Another matter of wider interest is that the ill-fated application of Melbourne University for recognition has already been followed by others. A Chicago graduate and one from Ontario have applied for registration; and their applications have been referred to the Examination Committee, which of course means that that body is to assess the value of two separate diplomas as compared with our own. Possibly we shall see before long similar applications from graduates of still other diploma-granting bodies.

It is to be noted that the meeting was at last sufficiently numerous to discharge six months' arrears of Registration Committee work. The Council now contains a larger proportion of effective members than it has done for a long time past; and we hope that the result will be an end of meetings without a quorum, and all they entail

to men awaiting re-registration.

LUXATION OF THE LENS.

By HENRY GRAY, M.R.C.V.S., Kensington, W.

I was very much interested when I read of the case of an injury to the eyeball with dislocation of the lens in a horse described by Mr. J. Willett at the last meeting of the Central Veterinary Society, and reported in the last issue of *The Veterinary Record*.

I am sorry I was unable to be present at that meeting, else I might have asked Mr. Willett what object had he in replacing the dislocated lens in the eyeball when he could have advantageously and

easily removed it?

A dislocated lens having lost its nutrition can only be a foreign body, and when in the anterior chamber it is likely to set up irritation and after a time hydrophthalmos. Such has been my experience in cases of spontaneous or congenital luxation, not only in the horse, but also in the cat and dog, in which species it is frequently observed.

On the other hand, as long as it remains in the posterior chamber, behind the iris and in front of the vitreous, it does not seem to cause any disturb-

ance to the nutrition of the eyeball.

Also, I cannot conceive what object there is in performing discission on a lens which has lost its connection with its normal situation—the zonula of Zinn, and protruding out of an external wound in the eyeball—and then replacing it. What benefit did Prof. Wooldridge, who suggested it, expect to derive from such a procedure? Surely, the simplest, the most advantageous and best surgical method would be to remove it as a foreign body.

Discission of a lens completely luxated and in an aqueous medium I consider most impracticable, unless the organ can be transfixed during the time one is attempting to tear the capsule with a discission needle. In such a case as that by Mr. Willett it

would have been out of place.

The best method of protecting the eyeball after an operation on, or an injury to it, is to suture the upper eyelid to the lower one after the conjunctival sacs have been well irrigated with some mild solution of one of the recognised ocular antiseptics. Such sutures may be left in sitü several days without any fear of sepsis. It is much better than bandaging, and the animal can be exercised in the open without any qualms of conscience, I always adopt it after cataract extraction or after removal of the luxated lens.

In some instances of luxated lens I have found the lens, after extraction through an incision made in the upper quadrants of the cornea, to be dense and hard. Although they may be greyish like a hailstone, I have never found them to be opaque as one does in complete cataract. The lens always appears to be larger when in one of the chambers than it really is. This is due to the fact that the cornea magnifies it. The fundus oculi in aphakia can be fairly well discerned with the naked eye.

PECULIAR CASE OF FOREIGN BODY IN A HORSE.

The following case is considered by the A.D.V,S. of this Division and others to be very interesting,

and is perhaps worth recording.

A horse was recently brought to my sick-parade and the A.V.C. Sergeant of the Battery reported that a flat substance like a button had gradually worked its way up the shoulder under the skin. On examination I found that this was to be distinctly felt under the skin, behind the "spine" of the scapula.

I decided to cut down to this, and finally removed from under the skin and its underlying tissue a ten

cent piece-" Canada," dated 1886.

One wonders how this coin got into this position. A brother officer suggests that the horse, having had a wound on some part of his body, someone placed the coin in it "for luck." Whether this is the true explanation it is impossible to say, but as the coin apparently gained entrance to the body in some way before the horse left Canada it must have remained there some time: but the point of entrance, of course, remains in doubt.

W. T. OLVER, Capt. A.V.C. (T.F.) 336th Bde. R.F.A. 6th July.

FITS IN DAIRY COWS.

By ARTHUR NEW, M.R.C.V.S., Ashton-under-Lyne.

During the twenty-nine years that I have practised in this district, in the spring of every year I have had to deal with several cases of fits, or as it is termed, staggers. They occur in all classes of dairy cows, but mostly in those giving a small quantity of milk several months after calving. The condition of the animals does not appear to exercise any influence, as both fat and lean cows are affected They are most frequent after a long winter, and this year I have had a great many cases.

The noticeable symptoms are grinding of the teeth, a rim of frothy saliva around the mouth, a straightening of the hind legs-like a cow about to go down with milk fever—glaring eyes, and frequently, in attempting to give a dose of medicine, the animal when held will immediately drop to the floor and commence to fight for some time quite unconscious, with eyes turned showing their whites, mouth fixed, the teeth ground tightly together. After the lapse of variable times they will come round, when they are as a rule unable to rise, and present to a marked extent the condition of a case of milk fever. As a rule any attempt to administer medicine, or if they are stretched out flat to get

more violent than the first. In many cases the cows are very violent from the commencement, frequently breaking a horn and knocking themselves very severely about the hips and other prominent parts of the body. Often the owner will tell you that the cow has had a fit before you have been called in.

Years ago these fits were called staggers, or stomach staggers, and I have tried all treatments in dealing with them—bleeding, sedatives, such as chlorodyne, chloroform, chloral hydrate—but as a

rule fatal results have followed.

About seven years ago, recognising the similarity of the symptoms to those of milk fever, I adopted in all these cases the treatment of inflation. I blow up the udder tight, tie the teats with tape, and have the udder massaged for ten minutes with the hands each hour for four hours; then the tapes are removed, and in eight hours begin to draw the udder. Half-ounce doses of chlorodyne every three hours, and a vegetable purge of aloes as soon as the medicine can be given without causing a fit. Generally the cow is much easier the second time the udder is rubbed, and the great majority of cases recover.

My experience of these cases is exactly that of milk fever-if they do not recover from the first

inflation, the case is hopeless.

Many cows after getting upon their feet have a vacant, frightened, nervous appearance, and halfounce doses of Chloral hydrate with two drachms of Pot. brom. are usually effective in removing these

In a number of cases of fat cows I have simply inflated the udder and not given any medicine-to avoid spoiling the flesh should the animal have to be dressed, and I have seen some remarkable cases

of speedy recovery.

Royal College of Veterinary Surgeons.

A meeting of Council, followed by a Quarterly and a Special meeting, of the Royal College of Veterinary Surgeons, was held on Friday, 6 h July, at the College, 10 Red Lion Square, London, W.C.

Mr. F. W. Garnett, J.P., occupied the Chair, and the

Mr. F. W. Garnett, J.P., occupied the Chair, and the following members were present: Major J. Abson, D.S.O.; Messrs. G. A. Banham, W. F. Barrett, J. H. Carter, J. C. Coleman, P. J. Howard, A. Lawson; Sir John M'Fadyean; Dr. J. McI. McCall; Mr. J. McKinna; Prof. A. E. Mettam; Messrs. W. J. Mulvey, W. Packman, T. S. Price; Maj.-Gen. Sir Robert Pringle; Mr. S. H. Slocock; Sir Stewart Stockman; Mr. H. Sumner; Maj.-Gen. Thomson, c.B.; Messrs. R. C. Trigger, S. Wharam, P. Wilson, G. Thatcher (Solictor), and F. Bullock (Secretary).

The minutes of the last meeting, which had been printed and circulated, were taken as read and con-

printed and circulated, were taken as read and con-

firmed.

Apologies for absence. The SECRETARY announced that letters regretting inability to attend the meeting had been received from Dr. Bradley, Maj. Brittlebank, Mr. Clarkson and Mr. Dunstan.

ELECTION OF PRESIDENT.

Mr. MULVEY: Gentlemen, for many years I have held them into a sitting position, brings on another fit the opinion that a President should only be elected for

one year, but there are exceptions to every rule, and although the gentleman that I am about to nominate has held the position of President for three years, yet these were exceptional times—and he is an exceptional man. (Hear, hear). It is on these grounds that I intend to ask you to support him, I hope unanimously. know as well as I do that the exceptional times in which we live necessitate a man of experience occupying the position of President of this College. Mr. Garnett has shown us that he is an exceptional man. (Hear, hear). He has devoted more time to the duties of the office of President of this College than any other Fresident I remember, and I can look back for a very considerable number of years. He has devoted all his energies not only to the work of this College-I believe he has never missed a Council meeting, and you know the distance that he lives from London—but he has also devoted himself in every way to the service of the Army Veter-inary Department. What he has done to promote recruiting, shall I say, for that Department, very few people know. He has not only devoted his time and his energies to it, but he has brought to bear upon it work of an exceptional character. I do not think I need say any more except to move: That Mr. Garnett be re-

elected to the position he now occupies. (Cheers).

Sir Stewart Stockman: I have very much pleasure in seconding this proposal. After what Mr. Mulvey has said, and having regard to the full knowledge of this Council of what Mr. Garnett has done, I do not think it requires any further words from me to commend it to your acceptance. I therefore formally second the

motion.

Mr. Trigger: I should like to support the motion. It is, I know, an unusual one, but, as Mr. Mulvey has so truly said, these are unusual time. Mr. Garnett has steered this ship so ably and so admirably during the past three years that I think you will all agree it would be a most dangerous thing to lose his help as President at the present time. I quite recognise that there are one two other gentlemen round this table who have claims upon the Presidency, and I say without hesitation that I do not know of any gentleman that I should oppose when their turn comes to be elected as President. They naturally look forward to being President of this Royal College. It is an honourable position; it is a position to which every member of the Council and every member of the profession is entitled to aspire. To those who have to wait for another year, I can only say that everything comes to the man who waits, and the honour comes a great deal more gracefully to him when it falls to his lot.

There is another point I should like to emphasise, and that is that I think we have reason to hope and believe that some honour will come to the President of the Royal College of Veterinary Surgeons at the termination of the war. It is hoped at least that some honour and some recognition will be given to the President of this College. It would be very unfair, I think, if someone else were in the Chair to reap the benefit of the great work Mr. Garnett has done when that honour is conferred. I therefore have great pleasure in supporting the motion. I hope we may have an unanimous vote, because I feel that the grounds which I have last mentioned are alone sufficient for an unanimous vote that Mr. Garnett should be re-elected our President for the coming year, during which we all trust there will be

an early and happy termination of the war. (Cheers).

Dr. McCall: I am very sorry to have to intervene and to propose the name of another gentleman as our President, but I am perfectly entitled to bring forward another gentleman's name for this post. (Hear, hear). It has always been my feeling that the term of the

that a number of members of Council look forward to the Presidency of this College as a crowning point of their career, and whenever a man occupies the Chair for more than one year he is naturally always keeping back those aspirants. Not infrequently something or other comes in the way and prevents the aspiration of some of the members of the Council coming to fruition. In that connection it is hardly necessary for me to refer to a fact which is well known to you all—that during the past year we have lost a very able and much thought of member of this Council who, in the ordinary way, would have occupied the Presidential Chair, had not the principle been adopted of electing the same gentleman for two or three years in succession. I am perfectly well aware of the fact-no man is better aware of it than I am-that Mr. Garnett has done very hard work indeed and very good work for this Council and for the profession. I am perfectly certain there is no member of the Council who could have done better work. But it does not follow that there is not another member of the Council who cannot carry on that work in the Presidential Chair with satisfaction to the Council, to himself, and to the profession at large. The gentleman whose name I desire to bring before you is Mr. McKinna. He has been a member of this Council for 16 years; he has been a most constant attendant at these meetings, he is a man whom we all admire—a man who has done good work for the Council and for the profession at large. I must now refer to a little personal matter. I promised to get all the support I could for Mr. McKinna. Yesterday I asked several members of the Council if they would give me their support, and they promised to do so. I had a chat with our friend, the President, and the arrangement which he came to with me was that, in the event of my not bringing up Mr. McKinna in opposition to him, if the post of President was offered to him he would refuse it; then Mr. McKinna's name could be brought up, and in that way we would help him to be unanimously elected. Trusting to this arrangement, which I considered that of one honourable man with another, I refrained from doing anything last night in trying to influence the mind of any member of this Council to support Mr. McKinna. Gentlemen, 1 feel this matter very much indeed. I think that this action you can think what you like of it, but in any case I consider that it is not the action of one honourable man to another. I am very sorry indeed to have to speak in this manner, but there are times when it is necessary. Without saying anything further, although it may be that I am fighting a losing election, I still consider that Mr. McKinna has been very badly treated. That being the case, I have pleasure in proposing that Mr. McKinna be elected President for this year.

Mr. Coleman: I have very much pleasure in seconding Dr. McCall's proposition. I deeply regret the state of affairs that has arisen. I desire to express my appreciation, as we all do, of the very excellent service that Mr. Garnett has rendered to us. Last year I supported his re election, but I certainly hold with Dr. McCall that the tenure of the Presidency should not be looked upon as a permanent thing and go on from year to year. I am not quite sure, but I think there is no precedent of a President having been elected for four consecutive years. (Cries of 'Yes, there is"). I know there is one precedent of three years, but in any case I have very great pleasure in seconding the election of Mr. McKinna

as President.

The President: I think, Gentlemen, an explanation is required from myself with regard to the private talk that took place between Dr. McCall and myself last evening. It was some time about six o'clock, I think, when the conversation took place, and in that I ex-President should as a rule finish at the end of the Presidential year, and not to be continued for two, three, or more years. One of my main reasons for that feeling is (hear, hear), and that if there was an expression that was practically unanimous on the part of the Council that I should serve them again I could not withhold my service; but at the same time if such an expression was not conveyed to me, either privately or collectively, then I should be satisfied to support, as I trust I may do, Mr. McKinna as President. Such an expression of opinion from practically all sides has been conveyed to me by members of the Council who have never mentioned the matter before that I feel I must place myself in the hands of the Council.

Mr. McKinna; Now that Dr. McCall, the proposer on my behalf, has expressed his feelings, and the desire has been expressed that Mr. Garnett should be again elected as President, I very willingly, if Dr. McCall

agrees, withdraw from the election.

Mr. BARRETT: No, no. Sir Stewart Stockman: You cannot withdraw after what has been said.

Mr. McKinna: Do you consent, Dr. McCall, to withdraw the motion?

Mr. SUMNER: Could Mr. McKinna withdraw if he wished to do so? (Cries of "No.")

Dr. McCall: I do not feel inclined to withdraw (hear, hear), and I am not satisfied with the explanation that the President has given of that private conversation; it is not according to fact. Mr. McKinna, whom I spoke to immediately afterwards, and the President himself, this morning, admitted the facts of the case are as I said.

Mr. Sumner: It is very regrettable. Dr. McCall: I am very sorry indeed.

The PRESIDENT: Are there any other nominations for the position of President? If not, I will put the proposition of Dr. McCall, seconded by Mr. Coleman, that Mr. McKinna be elected as President.

Mr. THATCHER (Solicitor): It is quite clear, according to the Bye-law, that the election must be by ballot, and, inasmuch as the President is interested in the matter and that the only acting Vice-President present is also interested in the matter, I suggest that the ballot be taken by the Treasurer.

Mr. TRIGGER: I move that Major Abson be deputed

to count the votes.

Sir John M'FADYEAN: I beg to move that Mr. Thatcher and the Secretary count the ballot papers.

Mr. TRIGGER: I am quite content with that. I second

The resolution was put and carried.

The ballot was then taken.

Mr. THATCHER: The numbers are as follows: Mr. Garnett, 16; Mr. McKinna, 5. On behalf of the Council,

Mr. Garnett is elected.

The President (Mr. Garnett), who was received with cheers, said: Gentlemen, I do not know how to thank you for the honour that you have conferred upon me by desire to work for the Council, and I have regarded the Presidency as being a position of a servant of the Council. If the majority of the Council desire, no matter on whose shoulders the work falls, that any one of us should be the President, they are conferring a great honour upon that individual. It is an honour of ser-vice, and I have always looked upon the Presidency as an honour of service. I have not looked upon it as a personal honour in any shape or form, nor do I require the slightest kudos for anything I may have done for the profession. (Cheers).

ELECTION OF TWO VICE-PRESIDENTS.

Mr. SUMNER: I have much pleasure in proposing the election of Mr. McKinna as a Vice-President.

Mr. BARRETT: May I suggest the name of Dr. McCall as the second Vice-President?

Mr. McKinna: I have pleasure in seconding that. The PRESIDENT: Are there any other nominations for the office of Vice-President?

Mr. Trigger: There is one member of this Council who has done very great honour to the profession. I do not wish in any way to oppose either of the gentlemen who have been already nominated, but I feel bound to say that I think we ought to confer this honour upon Maj. Abson. I am sure we are all very proud to see him here to-day (cheers), and it would be some slight recognition of what we feel if we elected him a Vice-President for the ensuing year.

Maj. Abson: It is very kind of Mr. Trigger to propose me, but I would rather stand out, if he would allow me to do so, this year. (Hear, hear).

The President: If there are no further nominations I put it to you that Mr. McKinna and Dr. McCall be elected the two Vice-Presidents for the ensuing year.

The resolution was carried unanimously.

ELECTION OF TREASURER

The President: I am going to take upon myself, as President, to propose that the oldest member of the Council shall occupy the position agair.—Mr. Mulvey. (Cheers). He has done yeoman service in years gone by. I know he has expressed a desire to be relieved of some of the work, but I feel sure it is the unanimous wish of this Council that Mr. Mulvey should continue as our Treasurer, and I propose that from the Chair.

Mr. CARTER: I second that.

Mr. Mulvey: I have occupied this position for a considerable number of years. I entered the profession in 1867, so that I have been a member of the profession for 50 years, and it seems to me it is a question whether you should not obtain a younger man to occupy the office of Treasurer. (Loud cries of "No, no").

Maj. Abson: You are good for another ten years.

Laughter and cheers).

The resolution was put and carried unanimously.

ELECTION OF SECRETARY AND REGISTRAR.

The President: I feel sure there is only one name to be proposed for the post of Secretary and Registrar. We have to thank Mr. Bullock for his past years of work, and I hope he will be our Secretary for very many years to come. (Cheers). I propose formally that he be elected Secretary and Registrar.

Mr. Mulvey: I must ask you to allow me to second that motion. Perhaps, with the exception of the President, I have a more intimate connection with the work of the office than any other member of this Council, and I can only tell you that Mr. Bullock devotes all his time, and nearly all his spare time, to the work of the profession and of the Council. He does his work well and thoroughly, and it would be a very great loss if we had to part with him.

The resolution was put and carried unanimously.
The Secretary (Mr. F. Bullock), who was received with cheers, said: Mr. President, Mr. Mulvey, and Gentlemen, may I thank you very sincerely for the way in which you re-elect me from year to year? This is my eleventh re-election, but I feel that it is a very short time since I was first elected. I look forward to a much longer period of service under such masters.

This concluded the brsiness of the Meeting of Council.

QUARTERLY MEETING OF COUNCIL.

A Quarterly Meeting of Council immediately followed, over which The PRESIDENT, Mr. F. W. Garnett, presided, and the same members were present as at the Meeting Maj. Abson: I have much pleasure in seconding that. of Council, with the addition of Prof. Shave.

Minutes. The minutes of the previous meeting, which had been printed and circulated, were taken as read, and confirmed.

The SECRETARY read the Obituary list.

The SECRETARY: There is no correspondence.

Right of way. The SECRETARY: I have to announce that on the 24th May, in accordance with the annual custom, I passed through the door into Yorkshire Grey Yard in order to maintain the right of way into the College.

FINANCE COMMITTEE.

Mr. LAWSON read the following report of a meeting

of the Finance Committee, held on 6th July:—
Financial Statement. The Treasurer submitted his financial statement for the quarter, showing a balance in hand of £228 19s. 1d., and liabilities amounting to £296 5s 7d.

It was resolved: "That the Financial Statement be approved, and that the Treasurer be ordered to pay the liabilities shown, together with the monthly salaries, petty cash, Examiners' fees and expenses, gas, and electric light."

Voluntary subscriptions. The Secretary reported that the total amount of voluntary subscriptions re-

ceived since January 1st was £788.

Corporation duty. A letter (8th May, 1917) was submitted from the Board of Inland Revenue, agreeing to the deductions claimed from the assessment to Corporation Duty. The total amount of duty payable for the ten years 1907-8 to 1916-17 was £165 4s. 6d.

The Treasurer was authorised to pay this amount. On the motion of Mr. Lawson, seconded by Mr. Price,

the report was received.

Mr. BARRETT: May I ask, with regard to the item of £165 4s. 6d. for Corporation Duty, what is the precise

nature of that?

Mr. THATCHER: It is of this nature. If a death occurs, then the Revenue receives succession duty, estate duty, and so on, but a Corporation never dies, so that an Act was passed, I think it was in 1885, which said that all Corporations should periodically pay duty, that duty to be assessed at so much per cent. of their yearly incomes. In this case they have made a concession. If you look at the Act of 1885 you will find that there are certain exceptions in cases where certain parts of the income of Corporations are applied in certain ways. The whole question was fought out in connection with the Royal College of Surgeons some three years ago, and when this matter was sent to me for advice I could but follow the judgment that was given in that case. I did so advise the Council, but at the same time I suggested that an application should be made to the Inland Revenue for exemption. That application was made by the Council, but the Inland Revenue very kindly quoted the case which I felt floored me. However, they made a concession, so that I think the Council has decidedly benefited by the action that was taken by the Council at the time.

Mr. BARRETT: What is the percentage?

Mr. THATCHER: I do not know what the percentage

is, but quite a handsome onc.
The SECRETARY: Five per cent.

Mr. BARRETT: I am very much obliged to Mr. Thatcher for his explanation. I suppose the fact was taken into consideration that during the past five or six years we have been losing money here?

Mr. THATCHER: Yes. Mr. BARRETT: All that was adjusted?

Mr. THATCHER: Yes.

Prof. METTAM: I propose that the report be adopted.

Mr. LAWSON: I second that.

of the report, the Chairman of the Finance Committee moved that the Treasurer be ordered to pay a certain number of debts. I do not see very well—unless he can suggest how it is to be done-how I, with a balance in hand of £228 19s. 1d., am to pay debts amounting to £450, unless the Chairman, with his usual liberality, will assist me financially. I simply want to emphasise the fact that, although the fees that will be received for the examinations will amount to a considerable sum, yet the expenses of the examinations will swallow them all up. I do not think that as the result of the examinations we shall make a single penny, so that you will see we are not yet out of the wood. I do want to im-press upon the members of the profession who have not yet subscribed to the College that they ought to subscribe, and continue to subscribe. (Hear, hear).

Mr. BARRETT: Before the motion is rut, do not you think we ought to pass a resolution of thanks at this meeting to those gentlemen who have subscribed to the funds of the College? It is one of those courteous things that will probably have some effect, and I think

it is only courteous to do so.

Prof. METTAM: Why should we thank ourselves?
Mr. BARRETT: We are only part of them. My view is that it is a mere act of courtesy.

Prof. METTAM: The annual meeting is the place to

Mr. BARRETT: It was done at the annual meeting, but there were not more than a dozen members present at that meeting.

Mr. Mulvey: It was reported in the journals.

The PRESIDENT: It was done at the annual meeting, which, in my opinion, was the proper place.
Mr. Barrett: But there were not more than a dozen

members present.

The President: That is the official meeting of the profession.

Mr. BARRETT: And this is the official meeting of the Council. I think it is a mere act of courtesy.

Mr. PRICE: We should be thanking ourselves. Mr. LAWSON: With regard to what Mr. Mulvey has said, I think he knows better than I do how he can find the money for the time being. We talked the matter over this morning, and as he is a past master in the art

of finance I leave the matter entirely in his hands. The report was then unanimously adopted.

EXAMINATION COMMITTEE.

Mr. MULVEY read the following report of a meeting

of the Examination Committee, held on 5th July:—
Fellowship Examination. The Secretary reported that at the Fellowship Examination held on May 12th, three candidates had presented themselves, one under the old regulations and two under the new. The following two candidates were successful under the new regulations: Capt. F. Chambers, A.v.c., Lieut. L. J. Kelly, A.V.C.

A report on the examination was submitted by Mr. W. F. Barrett, present as delegate at the examination, and it was resolved That the report of Mr. Barrett, together with a copy of his remarks made on the same subject at the Annual General Meeting, be transmitted to the examiners, with a request for their observations

on the matter. Summer Examination Arrangements. The Secretary reported that, in consultation with the President and Chairman, arrangements had been made for the following Fellows to examine in the subjects named, in place of Captain Bowes and Major Peddie respectively: Mr. W. Jackson Young, Anatomy, Class B; Capt. F. Chambers, Materia Medica and Toxicology, Class C.

Arrangements had also been made for Dr. Wm. Mr. Mulvey: Before the motion is put, I desire to Bullock to act as examiner in Pathology, Bacteriology call your attention to one fact. In moving the reception and Protozoology in London, and Dr. J. Miller to McWeeney who would be able to examine in Dublin

Educational Certificates. Educational Certificates Nos. 1658 to 1662 were submitted and approved.

Preliminary Educational Examinations. An application was received from Mr. E. J. Wardle, for the recognition of a preliminary educational examination not included in Schedule I., and it was resolved that the application be deferred for further consideration.

The Secretary submitted a list of Preliminary Educational Examinations for which recognition was requested, and it was resolved that the consideration of

the matter be deferred to the next meeting. Co-ordination of Preliminary Examinations. The Secretary reported that he had attended three conferences on Examinations in Secondary Schools which had been convened by the Teachers' Registration Council. The proposal of the Conference that a Secondary Schools Examination Council should be formed for the purpose of co-ordinating examinations had been adopted by the Board of Education, and on this Council Professional Bodies were to be represented by one member to be elected by a Standing Committee of such Professional Bodies. The Minister of Education had invited the attendance of representatives of the Council to a Conference to be held at the Board of Education on July 24th, for the purpose of establishing this Standing Committee.

It was resolved that the Chairman of the Committee together with the Secretary be appointed to act as Representatives of the Council at any Conference on the question of preliminary educational examinations, either at the Board of Education or elsewhere.

Exemption from First Year's Course. An application was received from the Secretary for Agriculture of the Union of South Africa, Pretoria, for the exemption from the first year's course of study of holders of the Diploma in Agriculture granted by one of the recognised Agricultural Schools in the Union.

It was arranged that Prof. Mettam should give notice of motion for the alteration of Byelaw 62a to

provide for such exemptions.

On the motion of Prof. Mettam, seconded by Major-General Thomson, the report was adopted.

REGISTRATION COMMITTEE.

The Secretary read the report of a meeting of the Registration Committee, held on 5th July, 1917, from which it appeared that twelve cases were considered by the Committee. The report in the case of a member, who was charged with conduct disgraceful in a professional respect, such conduct being the making of excessive and unjustifiable charges in respect of services rendered as a veterinary surgeon, was read, and the Committee unanimously considered that the charges in both cases were proved.

In the case of one member, in which the Solicitor reported the receipt of a petition praying for the withdrawal of the prosecution, it was resolved that the prosecution be withdrawn on condition that an undertaking and an apology were submitted, and that the

costs were paid.

Various actions were decided upon in the other cases

considered by the Committee.

Applications for Restoration. Applications were received from Mr. Albert Edward Boyer and Mr. Frederick Robert Shippard for the restoration of their names to the Register, these having been removed under the operations of Section 5, Sub-section (4), of the Act. It was resolved to recommend That the Registrar be directed to restore to the Register of Veterinary Surgeons the names of Messrs. Albert Edward Boyer and Frederick Robert Shippard.

An application was received from Mr. Ll. Crook for carried unanimously.

examine in the same subject in Edinburgh, vice Dr. E. J. | the restoration of his name to the Register, it having been removed by order of the Council in July, 1915. The case was referred to the Solicitor to report to the next meeting.

Applications for Registration. Applications were received from Mr. P. Lamb, holder of a diploma of the McKillip Veterinary College, Chicago, and Captain F. J. Braund, graduate of the Ontario Veterinary College, for Applications were registration as Veterinary Surgeons. It was resolved That the applications be referred to the Examination Committee for consideration and report.

The President: I propose the reception and adoption

the report of the Registration Committee.

Mr. TRIGGER: I second that.

The resolution was put and carried unanimously. The PRESIDENT: Consequent on that, I have now to propose "That the name in the case of excessive charges be removed from the Register of Veterinary Surgeons.

Mr. Lawson: I second that. The resolution was then put and passed with the

requisite majority.
The President: I desire to announce that Mr. Mulvey took no part in the discussion or in the voting in this case.

It was also resolved "That the name of another member, who had been convicted at a Court of Assize, be removed from the Register of Veterinary Surgeons.

Mr. PACKMAN: I second that

The resolution was put and passed with the requisite

majority

The PRESIDENT: We now go back to the minutes of the meeting of January last, which were not confirmed. The minutes were adopted, but the necessary quorum was not present to take action for the removal of a name and the restoration of several other names. Just to refresh your memories, the Secretary will read the report of the Committee, which report has been adopted by the Council.

The Secretary read the paragraph from the report of the minutes of the Registration Committee of

January 4th, 1917.

The PRESIDENT: It is now my duty to propose "That the name be removed from the Registrar of Veterinary Surgeons.'

Mr. Lawson: I second that.

The resolution was put and passed with the requisite majority

The PRESIDENT: The portion of the minutes for January 4th that I will now ask the Secretary to read was not adopted, and therefore it requires to be adopted and the necessary resolutions passed.

The Secretary read the following paragraph from the minutes of January 4th:

(a) An application was received from Mr. Edward Charles Storey for the restoration of his name to the Register, it having been removed under Section 5, Subsection (4) of the Act. It was resolved to recommend That the name of Mr. Edward Charles Storey be restored to the Register of Veterinary Surgeons.

(b) An application was received from Mr. Llewellyn Crook for the restoration of his name to the Register, it having been removed by order of Council on July 2nd, 1915, under the operation of Section 6 of the Act. It was resolved That the application be not acceded to.

(c) An application was received from Mr. James Lionel Barling for the restoration of his name to the Register, it having been removed by order of Council on July 2nd, 1915, under the operation of Section 6 of the Act. It was resolved to recommend That the name of Mr. James Lionel Barling be restored to the Register of

Veterinary Surgeons.

The President: I now move that the minutes you

have just heard read be received and adopted.

Major-Gen. Thomson seconded the motion, which was

The PRESIDENT: I now beg to propose "That the Registrar be directed to restore the name of Mr. Edward Charles Storey to the Register of Veterinary Surgeons on payment of the usual fee."

Mr. PRICE seconded the motion, which was carried

unanimously.

The President: I propose "That the Registrar be directed to restore the name of James Lionel Barling to the Register of Veterinary Surgeons on payment of the usual fee."

Mr. PRICE seconded the motion, which was carried

unanimously.

The PRESIDENT: I now propose "That the Registrar be directed to restore the names of Messrs. Albert Edward Boyer and Frederick Robert Shippard to the Register of Veterinary Surgeons on payment of the usual fee.

Mr. Slocock seconded the motion, which was carried

unanimously.

The PRESIDENT: Thank you, gentlemen, for your attendance to-day. It has relieved us of a lot of our old anxiety and work.

WAR EMERGENCY COMMITTEE.

The SECRETARY read the following report of a meeting of the War Emergency Committee, held on July 5th,

1917 :-

Tribunal exemptions. A letter (17/6/17) was received from the Director-General A.V.S., transmitting a letter from a member of the College alleging that dissatisfaction was being caused by the action of local tribunals in granting exemptions to unqualified practitioners. The Secretary submitted particulars of two cases in which conditional exemption had been granted to unqualified persons, and it was resolved That the Secretary be iustructed to bring the matter to the notice of the Director of Recruiting.

Secretary and Registrar. The Secretary reported that his application for renewal of exemption from military service must be lodged by July 19th, and it was resolved That the matter be entrusted to the Solicitor to carry through, with power, if necessary, to employ

Counsel.

On the motion of the President, seconded by Major-Gen. Thomson, the report was adopted.

Publication, Library, and Museum Committee.

Mr. PRICE read the following report of a meeting held

on July 5th, 1917 :-

The Secretary reported that since the previous quarterly meeting, the following presentations had been

made to the Library :-

Board of Agriculture, Annual Report of Proceedings under the Diseases of Animals Acts, etc., 1916; Board of Agriculture for Scotland, Agricultural Statistics, 1915, Vol. iv., Part I.; Annual Report of Imperial Bacteriologist, India, 1903-4-7, 1912 to 16; Annual Report of the Punjab Veterinary College, and C.V.D., Punjab, 1907 to 16; Ceylon, Annual Report of Government Veterinary Surgeon, 1915-16; B.E. Africa, Annual Report of Department of Agriculture, 1914-15; Nyasaland, Annual Report of Department of Agriculture, 1914-15; South Australia, Annual Report of Department of Agriculture, 1914-15; South Australia, Annual Report of Department of Agriculture, 1913-15; Bulletins, U.S. Africa, Cream Tests, Cattle Feeding Experiments, Cattle Sheds, Dehorning of Cattle, Poultry Pests; Bulletins, U.S.A. Dept. of Agriculture: Anthrax or Charbon, Contagious Abortion in Cattle, How to select a Sound Horse, Feeding and Management of Dairy Stock. Tuberculosis of Hogs. Management of Dairy Stock, Tuberculosis of Hogs, Intradermal Test for Bacterium Pullorum infection in Fowls; "The Army Veterinary Service," by Major J. W. Rainey, A.v.o., (Journ. R.U.S.I., May, 1917); Agricultural Research Institute, Pusa: Rinderpest, Preparation of Anti Serum, A. W. Shilston.

The Journal of the Board of Agriculture and Fisheries; The Journal of the D.A.T.I.; The Journal of Comparative Pathology and Therapeutics; The Revne de Pathologie Comparée; The Rhodesian Agricultural Journal; The Bloodstock Breeders' Revnew; The Veterinary Journal; The Veterinary Review; The Veterinary Record; The Veterinary News; Registrar-General's Official List, 1917; Zoological Society, Annual Report, 1916; The British Medical Journal; The Educational Times.

It was resolved that a hearty vote of thanks be

accorded to the respective donors.

On the motion of Mr. Price, seconded by Mr. Lawson, the report was adopted.

APPOINTMENT OF STANDING COMMITTEES FOR THE YEAR.

Registration Committee. On the motion of Mr. Lawson, seconded by Mr. Banham, it was formerly resolved that the Registration Committee should be

composed of the whole Council.

Examination Committee. Re-elected. The name of Mr. Coleman was substituted for that of the late Mr. Shipley. Messrs. Bradley, Brittlebank, Coleman, Gofton, McCall, M'Fadyean, McKinna, Dunstan, Share-Jones, Mettam, Mulvey, Shave, Stockman, Sumner.

Finance Committee. Re-elected. The name of Mr. Wilson was substituted for that of the late Mr. Shipley. The name of Mr. Messrs. Abson, Bradley, Carter, Clarkson, Howard, Lawson, McKinna, Mason, Mettam, Mulvey, Packman, Sumner, Trigger, Wharam, Wils n.

Parliamentary and General Purposes Committee. Re-elected, with the exception that Dr. McCall takes the place of Major Abson. Messrs. Bradley, Brittlebank, Carter, Clarkson, Dunstan, Lawson, McCall, M'Fadyean, McKinna, Mason, Mulvey, Slocock, Stockman, Sumner, Trigger.

Annual Fee Committee. Re-elected. Messrs. Barrett, Bradley, Carter, Gofton, M'Fadyean, Mason, Mettam, Mulvey, Packman, Sumner, Thomson, Trigger.

Publication, Library and Museum Committee. Re-elected, with the addition of Mr. Wilson. Messrs. Bradley, Burt, Coleman, Dunstan, McCall, M'Fadyean, Mettam, Mulvey, Price, Pringle, Share-Jones, Shave, Stockman, Wharam, Wilson.

Stockman, Wharam, Wilson.

Honours and Prizes Committee. Re-elected. Messrs. Abson, Banham, Bradley, Brittlebank, Gofton, Lawson, M'Fadyean, McKinna, Mettam, Mulvey, Packman, Pringle, Stockman, Sumner, Trigger.

War Emeryency Committee. The President: There is one other Committee, which is not a Standing Committee but a Special Committee, the War Emergency Committee. To that Committee you gave executive rowers and it may be that in the future as has been the powers, and it may be that in the future, as has been the case in the past, communications will be received from time to time from the War Office which will require dealing with immediately. The present members of the Committee are Dr. Bradley, Sir John M'Fadyean, Prof. Mettam, Mr. Mulvey, Mr. Price, Mr. Share-Jones, Mr. Slocock and Sir Stewart Stockman.

Mr. Barrett: I move that they be re-elected with the

same executive powers.

The resolution was seconded and carried unanimously. ELECTION OF AUDITORS.

On the motion of Mr. Mulvey, seconded by Major-Gen. Thomson, Messrs. Woodhouse and Wilkinson, chartered accountants, were unanimously re-elected auditors.

DATES OF COUNCIL MEETINGS AND EXAMINATIONS.

On the motion of Prof. Mettam, seconded by Sir John M'Fadyean, the following dates were fixed :-

COMMITTEE AND COUNCIL MEETINGS.

1917. October 4th and 5th.

1918. January 3rd and 4th; April 3rd and 4th; July 4th and 5th. June 5th, Annual General Meeting.

EXAMINATIONS. 1917. December 7th, Written; December 11th, Oral.

July 8th, Written; July 9th, Oral. Fellowship: May 11th, 1918. 1918.

Motion by Mr. Coleman: The following motions stood on the agenda in the name of Mr. Coleman:

1. "That the Army Council be respectfully asked (a) To consider the grave necessity of compensation upon ceasing their military duty being granted to Veterinary Officers who had practices prior to the war, especially those of the Territorial Force who were mobilised and had no time to arrange for the carrying on of their practices during their absence.

(b) To revoke paragraph 2 (j) of Army Order No. 406 of 1915, as this is a grave injustice to Terri-

torial Officers.

2. That the Parliamentary Committee appointed for the purpose be advised of the anomalies affecting the promotion of Temporary Officers, A.V.C., and those of the A.V.C. (T.F.)

The President: I want to explain to the Council the position with regard to Mr. Coleman's motion. The first two motions in Mr. Coleman's name were before the last Quarterly Meeting of the Council, and under Bye-law 17 you will remember that, where a motion has been rejected by the Council, that motion, "or any motion of similar purport to such rejected motion shall not be again moved at a subsequent meeting held within a shorter period than twelve months, except with the consent of the majority of the members present." I was under the impression personally that Mr. Coleman could not move that resolution, but the Solicitor informs me that a motion which has no seconder simply fails

Mr. Sumner: It was not rejected.
The President: It was not rejected. The whole of the facts were given and the matter was very fully debated on the last occasion, and it was quite fully reported as relates to the first motion (a) and (b).

Mr. COLEMAN: Mr. President and Gentlemen, I deeply regret that, through my inability to place this motion before you in such a manner as to impress you, you formed the opinion you did, but I remember dis-tinctly that you all said that you supported the idea if I could bring evidence forward to prove my statement. I have now obtained that proof, and I will now give it to you. For the first part of my motion I rely upon the Defence of the Realm Losses Commission to assist me. I now have before me the Statute by virtue of which that Commission sits. "The Commission sits under or by virtue of a Royal Warrant which authorises it to 'enquire and determine and to report what sums ought in reason and fairness to be paid out of public funds to applicants . . . in respect of direct and substantial loss incurred and damage sustained by them by reason of interference with their property or business through the exercise by the Crown of its rights and duties in the defence of the realm." I can read you an explanation if you wish it. I have copious correspondence here in support of my argument on the three points, and I am prepared to give a summary of it to the Council. But what I want to propose is this: "That a Special Committee be elected to consider this matter and report to the Council, and that the Committee be composed of Mr. Mulvey, Mr. Freeman Barrett, Mr. Share-Jones, Mr. Banham, Dr. McI. McCall, Mr. Salusbury Price Mr. Banham, Dr. McI. McCall, Mr. Salusbury Price | Sir Stewart Stockman: The Commission which and myself." In support of this motion, with your per- has to settle these things was appointed under the De-

mission, I will read you extracts from actual letters, which I am not in a position to place before you, from officers of the Army Veterinary Corps, making their complaints. I have a large number of such letters, and I have made extracts from about ten or eleven of them. Sir Stewart Stockman: Can we go into this?

The PRESIDENT: I do not really know, Mr. Coleman, what are you aiming at. I have spoken to the Solicitor about it and he tells me that these must be individual claims; they cannot be made collectively.

Mr. COLEMAN: I am not speaking of the claims. It

has all to do with the other two parts, the compensation and pay as well as the promotions-promotion, pay and compensation.

The PRESIDENT: I am afraid I did not catch what

this Committee that you propose has to do.

Mr. COLEMAN: I want the Committee to consider the evidence that I have, and then to report to the Council. It is far too big a thing for the Council to be delayed with to-day. I want this Committee to consider the case and then report the facts to the Council, and for the Council to act afterwards if necessary. That is the

preliminary step I propose.

Mr. Thatcher: I do not think that we quite understand what it is you want. The Council, I am quite sure, would not express the opinion that there was such a thing as a grievance unless the most ample evidence on the subject was placed before them. That evidence you do not propose to lay before us now, and very properly. If you simply want this question referred to a Committee to report generally on the whole matter,

that is another question altogether.

Mr. COLEMAN: That is what I want. I want them to report upon it with my motion to lead them. It is my motion that I want them to report about. I want them to consider the facts I have before me which

stimulated me to bring the motion forward.
Mr. Thatcher: If you get a committee appointed on this motion just see what it lands the Council in. It lands them in the statement that there is a "grave necessity of compensation upon ceasing their military duty being granted to Veterinary Officers who had practices prior to the war."

Mr. Coleman: May I explain the suggestion which I hoped the Committee would make to you? I was in hopes that, if a Committee were formed, that Committee would suggest to the Council that they might approach the Army Council and ask them to issue an Army Council Instruction to the Defence of the Realm Losses Commission that in exceptional cases, where great loss has been sustained and ruination, such cases should be compensated by them I can prove that such has been the case because I have received letters from men considerably advanced in years; their practices have gone and they have no money to start with again. I have letters to prove it, and I can read extracts from them if you like. I thought the Committee might recommend the Council to petition the Army Council to issue an Army Council Instruction to the Defence of the Realm Losses Commission saying that they approved of selected cases being compensated by them. Perhaps I ought to read to you the second part of this to make

it quite clear.
Sir Stewart Stockman: May I ask a question involving a legal point? Was the Territorial Force sum-

moned under the Defence of the Realm Act?

Mr. COLEMAN: Yes.

Sir John M'FADYEAN: May I repeat that question? Is Mr. Coleman quite satisfied that Territorial Officers were summoned to the Colours under the Defence of the Realm Act?

Mr. COLEMAN: Under the Mobilisation Act: that is

the Defence of the Realm Act.

Sir STEWART STOCKMAN: The Commission which

fence of the Realm Act, and if the Territorial Officers do not come under the Defence of the Realm Act it is

no use referring the matter to them.

Mr. COLEMAN? I have read you the Statute under which it sits. "The Commission sits under or by virtue of a Royal Warrant which authorises it to 'enquire and determine and to report what sums ought in reason and fairness to be paid out of public funds to applicants . . . in respect of direct and substantial loss incurred or damage sustained by them by reason of interference with their property or business through the exercise by the Crown of its rights and duties in the defence of the

claim.

Mr. Coleman: I can give you twenty claims.
Mr. BARRETT: The authority which Mr. Coleman is quoting refers to the seizure of property under the De-

fence of the Realm Act.

The PRESIDENT: How can we help him in putting forward a personal claim? The claimant will have to put his own case before the proper Court to get a decision. We have no locus standi in the court ; he must make an individual claim.

Mr. BARRETT: The authority Mr. Coleman gives does not cover a case of this kind at all; it is not on

the same lines.

Mr. COLEMAN: May I read a few extracts from these

The President I am in your hands, but I do not

see that it would help Mr. Coleman's case.

Sir STEWART STOCKMAN: Can the Solicitor give us any information on the question of whether the Territorial Force was mobilised under the Defence of the Realm Act, because the Commission was appointed under the Defence of the Realm Act?

Mr. THATCHER: I am afraid I cannot answer that

Maj.-Gen. Thomson: They were mobilised under the

general mobilisation of the army.

The PRESIDENT: And the Defence of the Realm Act was passed long afterwards.

Mr. THATCHER: The Defence of the Realm Act is the Act of 1915, and they were mobilised under the Act of

Sir STEWART STOCKMAN: So that we are wasting our time, because the Defence of the Realm Commission cannot consider the matter.

The PRESIDENT: In order that matters may be in order, I ask you, Mr. Coleman, to formally to move the motions and then get a seconder, and then you can make any application you like afterwards.

Mr. Coleman: I beg to move that this motion be considered by a Special Committee composed as

Mr. THATCHER: You cannot do that. You have not got your motion through yet. You cannot appoint a

Committee on a motion which does not exist.

Mr. COLEMAN: I am afraid I do not understand, Sir. Mr. THATCHER: First of all you have to put this motion forward, and the Council have to say whether they accept it or reject it. If they reject it there is no Committee and nothing more can be done. You have to get the resolution passed first before you can get a Committee to act on it.

Mr. COLEMAN: If I move it as it stands I must read these extracts, because you told me that if I produced evidence you were prepared to support it. We were in the same position when the seconder withdrew on the

last occasion.

The PRESIDENT: You must get a seconder in the first

Mr. COLEMAN: I have a seconder.

Dr. McCall: I second it.

The President: The whole three of these resolutions?

Dr. McCall: Yes.

Mr. SUMNER: Cannot we get some evidence from Mr.

Coleman that these grievances actually exist?

Mr. Coleman: I have it.

Mr. Sumner: The present information before the Council is that these aggrieved Territorial Officers do not come in under that particular paragraph which Mr. Coleman has recited?

The President: That is so.

Mr. Sumner: If that is so, I take it that we as a Council have no locue standi, and while it may appease The PRESIDENT: I think this must be an individual the feeling of the apparently aggrieved Territorial Officers to have their grievances ventilated here, it might be a dangerous proceeding for this Council to adopt the resolutions.

Sir John M'FADYEAN: Might I suggest to Mr. Coleman the advisability of withdrawing the motions of which he has given notice, and that the Council refer the matter to the War Emergency Committee to find out whether Mr. Coleman is correct in supposing that these things come under the Order that he has just read! In the meantime we could get legal advice with regard

The President: And I suggest that Mr. Coleman might become a member of the War Emergency Com-

mittee when the matter is dealt with.

Sir John M'FADYEAN: Just so. It is merely to find out what the legal position is. Mr. Coleman will recognise that the Council will be averse to giving an opinion one way or the other while the legal question is in doubt, and the Solicitor tells us that at the present moment he is not prepared to give an opinion on the point.

Mr. Coleman: I know the position. At the present moment I know we have no power. I will read the rest of the Statute, if I may. The reason I have asked you for this authority to ask the Army Council to issue special instructions to the Commission that they approve of bad cases being relieved is this:

"The Commissioners have held that to entitle a

person to claim they must have been subjected to a direct and particular interference, such as between private individuals would have given cause to a right of action, and in the case of the owner of pleasure boats who had been forbidden by the Admiralty to use his boats for hire have held that he was not entitled to compensation although they recognise the extreme hardship. Their view is that they are entitled to compensate for loss caused to individuals by 'general regulations.' Apparently they proceed on the assumption that a peculiar and personal loss to an individual may be compensated, but that if that loss is sustained by a number of persons no award can be made.'

Sir John M'FADYEAN: I submit that the sense of that is that any losses sustained by Territorial officers having to join the Colours would not come under this

Order at all.

Mr. COLEMAN: Not at present, but if the Army Council approved of them being compensated they would come under it at once. Do you oppose the formation of the Committee?

The PRESIDENT: I think the best Committee for the Council to adopt for the purpose is the War Eme gency Committee. They must consider it first and report on it to the Council. It has been suggested that you should be added to that Committee.

Mr. Coleman: You have put me on that Committee? The PRESIDENT: On the special War Emergency

Committee.

Mr. COLEMAN: Then I shall be able to bring it before that Committee:

The President: First of all the Council must adopt your resolutions as they stand or reject them, or refer

them to that Committee.

Mr. BARRETT: May I suggest, in order to simplify matters, that we pass a motion of this kind, because there is a feeling that this grievance ought to be gone into: "That a Special Committee be formed to consider the question of alleged grievances to Territorial officers of the Army Veterinary Corps, and to ascertain if there are any, and, if so, what rights under the various Statutes and Orders of the Crown in relation thereto"?

Mr. Coleman: I am quite willing to accept that. Sir John M'Fadyean: I do not know exactly what the positition is, Sir. Mr. Coleman's motion has not been properly seconded, has it?

The President: I am instructed by the Solicitor that we must either adopt these resolutions or reject them before we can do anything else; and then a Committee can be formed.

Mr. THATCHER: Afterwards You must dispose of

these resolutions first.

Major Abson: Cannot we discuss them at the present

Sir John M'FADYEAN: Mr. Coleman holds the field, and none of us can discuss them.

Mr. Barrett: May I move what I read out as an

amendment?

Sir John M'Fadyean: I have moved a prior amendment. When the ground is clear for an amendment I claim that mine is the prior one, namely, "That the matter be referred to the War Emergency Committee, and that the name of Mr. Coleman be added to that Committee." I have already moved that, but it is not I have already moved that, but it is not in order until the motion of Mr. Coleman is disposed of.

Mr. Coleman: To facilitate matters, I propose the motion as it stands on the agenda.

Dr. McCall: I second that.

Mr. Barrett: I should like to move the amendment I read, and add those words of Sir John's to it which would make it more complete—that the whole matter be referred to the War Emergency Committee.

Sir JOHN M'FADYBAN: I moved that the whole question be referred to the War Emergency Committee with the addition of Mr. Coleman. There is no desire to shelve the matter at all, but we want to know where we stand.

Sir Stewart Stockman: It is merely drafting a reference to the Committee.

Mr. THATCHER: That is really what you want, Mr. Coleman?

Mr. Coleman: Yes, that will satisfy me.
Mr. Barrett: "That it be referred to the War Emergency Committee."

Sir John M'Fadyean: Is this supposed to be my amendment?

The President: Yes.

Sir John M'FADYEAN: That is not my amendment at all My amendment is that the matters referred to in the resolutions standing on the agenda be referred to the War Emergency Committee-those matters precisely, the things that we are asked to vote upon. I do not wish to vote upon them until they have been considered, and in particular until we have been instructed as to the legal position.

The PRESIDENT: Sir John's amendment is that these resolutions standing in Mr. Coleman's name be referred to the War Emergency Committee for consideration and report to the Council, with the addition of Mr. Coleman's name to that Committee for the purpose.

Mr. BARRETT: I should like the power of the Com-

mittee to be extended.

The PRESIDENT: I must rule against you there, because we are bound by the resolution on the agenda. Mr. BARRETT: I think if necessary I can do so.

The President: It must not go outside Mr. Coleman's resolutions as they stand in his name.

Mr. BARRETT: But this is not an alteration of a Bye-

Mr. THATCHER: Let us be in order. Sir John's amendment is not seconded yet.

Major-Gen. Thomson: I second that amendment. The President: Now you are in order, Mr. Barrett,

to move an amendment to that amendment. Mr. BARRETT: I move that the whole question be referred to the War Emergency Committee.

The President: What "whole" question? Mr. Barrett: This question.

The PRESIDENT: We are dealing with Mr. Coleman's resolution at the present time, and you are making it

very much wider than Mr. Coleman has done.

Mr. BARRETT: I move "that Mr. Coleman's motion be referred to the War Emergency Committee, with the addition of Mr. Coleman's name to that Committee, to consider the question of the alleged grievances to Territorial officers of the Army Veterinary Corps and to ascertain if there are any, and if so, what rights under the various Statutes and Orders of the Crown in relation thereto." That extends the whole thing. Mr. Sumner: I take it the only difference between

the two amendments is that Mr. Barrett wants to give

that Committee a specific reference.

Mr. BARRETT: I want to give it extended powers.

Sir John M'Fadyean: I desire to give it the most specific reference possible. Here is a matter on the agenda paper about which we are to be asked to vote, and my amendment is that that matter, just as it stands, be referred to the War Emergency Committee.

Mr. BARRETT: Mr. Thatcher very kindly suggests that I should adopt Sir John's amendments. I am prepared to do anything, but I think it would be a mistake to limit the powers of the Committee. This is the only point I wish to make. If you really desire to go into these alleged grievances fairly and fully, then you should give the Committee power to ascertain in all respects what rights these men have. To limit it to something Mr. Coleman says on this paper or to limit the enquiry to what he has read out would limit the powers of the Committee, and we should get no real benefit from it.

The President: Is there any seconder to Mr. Barrett's amendment to Sir John M'Fadyean's amendment?

Mr. Banham: I second it.

Mr. Barrett's amendment was then put and lost.

Sir JOHN M'FADYEAN: With regard to my amendment, I wish it to be on the distinct understanding that Mr. Coleman withdraws his motion. He does not ask us to vote on his motion?

Mr. Coleman: I accept that.

The PRESIDENT: Every word of your resolution is referred to the Committee, that is what Sir John is proproposing. That is your wish?

Mr. COLEMAN: Yes, either that or Mr. Barrett's. I

prefer Mr. Barrett's.

The President: I now put Sir John's amendment: "That Mr. Coleman's motion be referred to the War Emergency Committee, with the addition of Mr. Coleman's name, for consideration and report thereon to the Council."

The amendment was then put and carried, and it was then put as a substantive motion and adopted.

The PRESIDENT: I may say, for the general information of the profession, that representations have again been made to the proper authorities with regard to the difference in pay between Territorial Officers and Temporary Officers, and I believe and trust that they will receive favourable consideration.

NOTICE OF MOTION.

Prof. METTAM: I have been asked to give notice of the following amendment to Bye-law 62A. The Byelaw at present reads as follows: "Exemption. (i) Students who have obtained a Degree in Arts, Science of Medicine of any University in the United Kingdom, or the Diploma of Licentiate of the Royal Colleges of Surgeons and of the Royal Colleges of Physicians, and who at the respective examinations of such Degree or Diploma have passed in Chemistry, and also in Biology, Zoology, or Botany, are exempted from attendance at the first year's Course of Lectures and from the examination at the end of that year, provided that each student so exempted shall be examined in the whole subject of Anatomy in the Class B Examination." The amendment or addition I wish to move at the next meeting of the Council is to insert the following phrase after the words "Royal Colleges of Physicians"—"or a Degree or Diploma in Agriculture granted by a University."

This concluded the business of the Quarterly Meeting

of Council.

SPECIAL MEETING OF COUNCIL.

Immediately following the Quarterly Meeting, a Special Meeting of Council was held. The PRESIDENT, Mr. F. W. Garnett, occupied the Chair, and the same members were present as at the Quarterly Meeting.

Minutes. The minutes of the last meeting, which

had been printed and circulated, were taken as read and

confirmed.

NEW BYE-LAW.

Mr. MULVEY moved the adoption of the following new Bye-law:-

"It shall be delegated to the Examination Committee to prepare and issue from time to time a list of examining bodies whose examinations in general education fulfil the conditions of, and are specially recognised by, the Council."

In doing so, he said: The real reason for this is to save time. Every now and then we get applications from educational authorities who ask us to accept their certificates. Sometimes it is desirable that they should be accepted; but if the matter is left over for three months before it can be brought before the Council it wastes a lot of time. The Examination Committee can very well carry out this duty. As a matter of fact, this is the practice adopted by the General Medical Council. I move the adoption of the Bye-law.

Prof. METTAM seconded the motion, which was carried

unanimously.

The PRESIDENT: This will have to be aftirmed at a Special Meeting of Council within fourteen days.

Vote of thanks to the President. On the motion of Maj.-General Thomson, a hearty vote of thanks was accorded to the President for his conduct in the Chair, which the President briefly acknowledged, and the meeting terminated.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

C. H. Delacherois, Sandford		£1		
G. O. R. Gray, Capt. A.V.C.	1913 to 1917	6	6	0
J. W. Haves, Lieut. A.V.C.		1	1	0
J. Henderson, Edinburgh		1	1	0
R. P. Holmes, Capt. A.V.C.		1	1	()
W. Litt, Whitehaven		1	1	0

		_	_
	£ 790	5	0
Previously acknowledged	775	11	0
A. G. Todd, Col. A.v.c.	1	1	0
W. P. Stokes, Capt. A.V.C.	1	1	0
P. T. Saunders, Capt. A.v.c.	1	1	0

A Light Horse suggestion.

An admirable suggestion in the matter of the future of light horse breeding has been made to us (Live Stock Journal) by a prominent soldier, a leader of men on the stricken fields of Flanders. Briefly, his suggestion is this, on the conclusion of the war, the Remount Department should make a direct effort that the leading fox hunts, many of whom gave up dozens of valuable hunters and riding horses, should receive back into their hands as many fit and well-conditioned animals as possible. This famous soldier paid yet another tribute to the value of hunting in the matter of raising horses suitable for cavalry. "No army the world has ever seen was so well mounted as that part which he had charge of in the early days of the war. There were hunters of price-less worth, the majority of them having been given up freely and willingly by their owners, who could not have paid less than 200 guineas for them before the outbreak of the war.'

ARMY VETERINARY SERVICE.

The following have been mentioned in the Despatch from Sir Archibald Murray covering the operations in Egypt, from October 1, 1916 to February 28, 1917:-

STAFF.

Maj. E. P. Argyle; Col. (temp. Brig.-Gen.) E. R. C. Butler, F.R.C.V.S.; Capt. (temp. Maj.) S. J. Williams.

Capt. (temp. Maj.) G. E. Tillyard; Ptc. (actg. Staff Sgt.)
A. W. Burd, SE 3663; Ptc. (actg. Sgt.) J. W. Haywood, SE 4707; Ptc. (actg. Sgt.) R. Telfer, SE 5602;
Staff Sgt. (actg. W. O., 1st Class) W. Treadwell, 169;
Ptc. (actg. Staff Sgt.) A. Woodhall, 1027; Capt. (temp.
Maj.) W. S. Lornie; Capt. (temp. Maj.) P. J. Simpson;
Capt. R. Simpson; Capt. R. W. Williams.

AUSTRALIAN A.V.C.

Capt. (temp. Maj.) J. Kendall; Capt. (temp. Maj.) F. Murray Jones.

NEW ZEALAND V.C. Maj. J. Stafford.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, July 5.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. J. W. O'Kelly to be actg. Major whilst empld. as A.D.V.S. of a Div. (May 19).

Maj. (temp. Col.) H. M. Lenox-Conyngham D.S.o. relinquishes his temp. rank on ceasing to be employed as Dep. Dir. of Vety. Servs. (May 19).

Temp. Lieut W. T. Edwards relinquishes his commn. on termination of engagement (July 7).

Lt.-('ol. (temp. Col. H. J. Axe relinquishes his temp.

rank (June 1). Temp. Cap^{*}. W. S. Reid relinquishes his commu. and is granted the hon. rank of Capt. (June 5), (substituted for the nofification of June 4).

Temp. Lts. to be temp. Capts.:—W. Walker (May 24); A. T. Crowther (June 19).

Temp. Hon. Lieut. to be Temp. Lieut. :—F. C. Simpson (Feb. 1).

July 11.

Temp. Lieut. E. J. Lukey relinquishes his commn. on termination of engagement (May 1).

The following casualties are reported:-

DIED—Pte. A. C. Gardner, 5294 (Arundel). Pte. J. Oddy, 23498 (Paddington, W.).

Accidentally Killed—Actg. Sgt. E. J. Pask, 1720 (Newmarket).

OBITUARY.

ALFRED HOSKIN, F.R.C.V.S., Capt. A.V.C., (of Liskeard, Cornwall). Graduated, Lond: July, 1913. Killed on active service, 2nd July, 1917.

RICHARD ALFRED TURNBULL, M.R.C.V.S., formerly of Calcutta. Lond: Dec., 1872.

Died June 28, 1917, at Rugby Rd., Preston, Brighton, at the age of 65.

The late Capt. H. L. Anthony, A.V.C., T.F.

In tribute to the memory of the above, I should like to add a few lines to those contributed by Capt. Wm. Awde, A.V.C., T.F., in *The Veterinary Record* of June 16th last.

The late Capt. H. L. Anthony was a son of Mr. John Anthony, the well-known horse breeder and trainer of Cilveithy, Kidwelly, and was one of six brothers holding commissions, the eldest being Lieut.-Col. W. S. Anthony, A.V.C., and another, Lieut. J. Anthony, R.F.C., who twice rode the winner of the Grand National, and has recently been reported missing.

He graduated from the London College in 1901, and saw service in S. Africa. As veterinary officer to the Glamorganshire Yeomanry he joined up on the declaration of war in 1914. Later he was appointed officer commanding the 1/1 London Mobile Veterinary Section, which, on its arrival in France in March, 1916, was attached to the 56th Division, and he remained in command of this Section up to the time of his being killed. That he was a most popular officer his many friends need no telling, and that he was also very efficient is evidenced by the fact that he was mentioned in despatches for his services in the great push on the Somme last year. Had he been spared there is no doubt greater honours were in store for him, as he had proved himself a most capable and trustworthy officer, and one that could ill be spared. Unfortunately, however, he was killed instantaneously on the night of May 2nd whilst asleep in his tent, by a bomb dropped from an aeroplane, and he now lies buried in the cemetery at Arras, deeply mourned by his coll agues and all who had the privilege of knowing him.

WM. ASCOTT, Major A.V.C., T.F.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

· Period.			Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.		
				Out- breaks		Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab.	Out- breaks	Slaugh- tered.
GT. BRITAIN.	147 7 11 7			1		1		1 (-)		1 (0)		(-/-	1-7	1
	Week e	nded Ju	ly 7	3	5			1	1	43	63	5	41	19
Corresponding	1	1916		Е	8			3	7	30	43	1	108	111
week in	1	1915		10	11			1	4	31	49	1	107	394
	4	1914	•••	9	9			6	14	13	23		79	1067
Total for 27 wee	eks, 1917			299	341			16	28	1633	3250	389	1453	628
Corresponding	(1916		324	384	1	24	30	78	1506	3495	178	2723	8196
period in 1915				368	412			27	44	449	960	157	2439	11171
period in	(1914		450	490	11	74	59	156	1398	2479	147	2267	23638

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.
(1) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, July 10, 1917

† Counties affected, animals attacked:—Bedford 1

Excluding outbreaks in army horses.

I ELAND. Week en	ded July 7							Outbreaks 1	1	3	5
Corresponding Week in	1916 1915 1914	:::		*		:::	:::		3 4 5	10 4 1	91 14 10
Total for 27 weeks, 1917		3	5			1	1	29	234	144	935
Corresponding period in	$\begin{cases} 1916 & \dots \\ 1915 & \dots \\ 1914 & \dots \end{cases}$	2 1 1	6 1 1	 75	955	 1	 3 	37 36 49	229 259 352	169 144 117	975 836 653

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 9, 1917

Note.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1515

JULY 21, 1917.

VOL. XXX.

SUBSCRIPTIONS TO THE R.C.V.S.

Voluntary subscriptions continue to flow in steadily; and it may now be hoped that this year's total will considerably exceed that of last year. At this period last year some £665 had been received: and at the end of the year the total amount, excluding some subscriptions for 1917 paid in advance, fell only just short of £850. This year the amount received has already reached £800; and, as more than five months still remain for further subscription, the situation has possibilities. Almost certainly we shall reach £1000 before the year ends, and we may get well over that figure. The financial responsibilities are heavier now than last year; and at present the only means of meeting them is by voluntary subscription.

PROFESSIONAL DISCUSSION.

In a paper in another column, Mr. Dunlop refers to the question of Magnesium sulphate in bovine practice, which Mr. Davis raised in this journal some time back, and which received then much less notice than it deserved. We share Mr. Dunlop's regret that the subject was so inadequately discussed at the time; but veterinary history affords many similar examples of the reluctance of practitioners to publish their clinical experience and views. Mr. Dunlop himself reminds us of one such example in another part of his paper, where he alludes to the old days of bleeding. One professional journal-the old Veterinarian-was in existence and enjoyed a wide circulation throughout the period during which bleeding was dethroned from its old supremacy in veterinary practice; but its pages contain hardly any evidence as to how, or by whose agency, that veritable revolution was effected. Somehow the profession generally lost faith in bleeding - that is really all we know about it-but we do know that many of our members still held to it long after it had dropped out of human practice, and probably the all but complete absence of any discussion of the subject in the veterinary press explains why they did so. The profession failed to utilise its press; and many of its members fell behind the times in consequence.

A somewhat similar revolution may already have silently made considerable progress in the more limited field of bovine practice as regards the use of magnesium ried it out on the horse, dog, cat, and parrot, and sulphate. Probably many practitioners to-day would accord it nothing like its old place in cattle practice; but very few of them have said so. Mr. Davis made After a time the hair re-grows and covers the one attempt to ascertain the views of the profession regarding it, and failed. Mr. Dunlop, in re-opening the question, and quoting Mr. Davis' utterances in doing so, is evidently deliberately making a second attempt in the same direction; it is to be hoped that he may be successful.

OCCLUSION OF THE CONJUNCTIVAL SACS AND THE PALPEBRAL FISSURE AFTER EXCISION OF EYEBALL.

By Henry Gray, M.R.C.V.S., Kensington, W. S.

Some years ago I instituted an operation for doing away with the unsightly eye-socket after removal of the eyeball following an irreparable injury, and have since performed it on many occasions with absolute success. As my experience of it has matured, and not having heard of anybody who has yet performed or recorded as having performed it, I think it is worthy of being brought to the

notice of the profession.

Having removed the eyeball together with the whole of the conjunctival membrane, the membrana nictitans and the lacrimal gland, the eye cavity is packed with aseptic gauze saturated with a sterilised solution of chinosol, the eyelids are sutured together. Twenty-four hours later the sutures are divided and the packing removed. The packing and suturing are renewed every two days for a week, when the eye socket will be found to be fairly well filled up with healthy granulation tissue. The whole length of the free margins of the eyelids, formed partly by skin and mucous membrane, is then removed with a a pair of sharp, fine-pointed scissors, and the raw edges of the eyelids are brought together by several sutures of fine Japanese silk, which are maintained in position until the whole breadth of the palpebral fissure is occluded by the cohesion of the eyelids, which will be generally accomplished in the course of a week if no suppuration has occurred to prevent it, which is rarely the case if the wound has been treated antiseptically from the commencement. Beyond painting the outside surface of the evelids immediately after the suturing has been performed no further dressing is required. On no account should the wound be bathed with lotions, which only macorate the tissues and retard cicatrisation. After the eyelids have become firmly adherent, or rather coherent, the sutures may be removed.

This operation does away with the unsightly appearance of the eye-socket, which only forms a receptacle for dust and foreign bodies which give rise to a flow of muco-purulent secretion, to soil the skin surrounding the ocular region. I have carried it out on the horse, dog, cat, and parrot, and

After a time the hair re-grows and covers the

whole of the conjunctival mucous membrane and of gland and membrana nictitans must be removed.

Symptomatology of Epizootic lymphangitis.

H. Velu reports on the study of 300 cases, in the $Bull.\ Soc.\ Cent.\ Med.\ Vet.,\ March\ 1,\ 1917:-$

"Epizootic lymphangitis is at present considered to be a disease of the lymphatics and mucous membranes, characterised always and exclusively by the presence of buds and cording of the lymphatics.' This, however, does not correspond with the author's experience and he thus classifies the disease into two varieties, viz., (I) an atypical lymphangitis which remains localised in the inoculation wound, and (2) a typical lymphangitis which is manifested by cutaneous lesions (cording and buds) and sometimes by ulcers on the mucous membranes.

Atypical lymphangitis. The most striking characters of the lesions are, resistance to cicatrisation and the formation of fistulæ without apparent cause. Very often the original fistula formed becomes constricted and small buds appear around it which later discharge and give rise to new fistulæ often communicating with the original one. One finds on examination of these fistulæ that they terminate in serious lesions—necrosis of hone, ligaments, or connective tissue—which account for their persistence and the abundant suppuration. The nature of this variety of the disease has hitherto been overlooked by practitioners as, owing to the favourable results following surgical operation, the lesions were supposed to be due to ordinary causes. Microscopic examination, however, invariably reveals the true nature of the disease and enables one to employ a specific treatment.

The various forms of this atypical lymphangitis observed by the author were as follows:—(a) simple shallow ulcers, of frequent occurrence, and (h) simple fistulous wounds, both occurring as complications of ordinary wounds; (c) a testicular lesion, as observed by Teppaz in the course of typical lymphangitis, was observed by the author in five cases of this atypical kind; (d) osseous lesions, observed 17 times; (e) conjunctival ulcers, observed in six cases, bi-lateral, and resembling summer sores in appearance; (f) cryptococcic phlebitis (one case); (y) cutaneous form (two cases) resembling contagious pustular dermatitis in appearance; these cases were characterised by the appearance of a small number of buds disseminated over the body and limbs and not united by visible lymphatic vessels.

Typical lymphangitis. In this form the resistance of the tissues apparently becomes broken down and invasion of the lymphatic vessels takes place from the original wound after an interval, which may vary from a fortnight to six months according to the author's observations. This form is generally cutaneous, but it often affects the mucous membranes as a complication, following

generalisation, or auto-inoculation.

The cutaneous form may be observed anywhere on

For the complete success of the operation the the same. From the original cicatrised or uncicatrised wound very prominent cords are seen along the free margins of the eyelids and also the lacrimal the lymphatic vessels making their way towards the nearest superficial lymphatic gland. Small intradermic swellings of variable size appear along their course giving them a beaded appearance. These swellings become extremely sensitive and the pain often causes great alteration in the temperament of the animal. The swellings after a very variable interval become converted into small abscesses and burst, the smallest discharging a greyish-red liquid which is sticky and can be easily spread out, and the largest abscesses discharging a laudable pus which is of a creamy, thick, mucous appearance, is not sticky, and is spread out with The very large deep-seated abscesses difficulty. give rise to a less homogeneous, more serouslooking, pus.

> After puncture the pus changes in character and each bud becomes an irregularly shaped protruding ulcer showing no tendency to cicatrisation and oozing a clear liquid from its surface. The inflammation of the lymphatic vessels disappears eventually leaving only the ulcerated buds and sometimes complications in the lymphatic glands, which may attain a considerable size, suppurate and become perforated with fistulæ, discharging a pus extremely

rich in cryptococci,

Lesions on the mucous membranes.—These most often appear as final complications in cases of generalised lymphangitis and according to the seats affected they assume very varied characters. On the lips and on the external wings of the nostril one finds small papules which may be taken for horse pox papules. After a few days these papules become transformed into pustules and ulcerate, small raised umbilicated ulcers remaining which discharge a colourless oily liquid. From the internal canthus of the eye a chain of small ulcers was observed in some cases to run up and down the head giving an appearance very similar to that of summer sores. On the conjunctiva, pituitary mucous membrane, and borders of the lips are sometimes seen ulcers which may, at first sight, be mistaken for those of acute glanders. The ulcer, however, is different in that its base protrudes and forms a prominence from 1 to 2 mm. in thickness on the mucous membrane. The ulcer is surrounded by a lightly coloured zone and it shows no tendency to cicatrisation. The ulcers sometimes become confluent and then give rise to a dull-white granulating mass. This condition leads to a painful swelling, and sometimec suppuration, of the submaxillary gland.—Tropical Veterinary Bulletin.

THE ETIOLOGY OF WORM NESTS IN CATTLE.

Further investigations by J. B. Cleland, S. Dodd, and E. W. Ferguson are published by the Commonwealth of Australia. "The experimental work was carried out at Milson Island, N.S.W., where conditions appeared favourable for work on account of the natural infestation with worm nests of the herd of cattle kept on the Island. From previous experiments carried out in this locality it seemed very clearly indicated that the vector was a flying insect, and that it probably was either Stomoxys calcitrans or one or more species of mosquito the body and the course of the disease is always or of tabanids. The preponderance of evidence seemed to be in favour of stomoxys and special attention was thus directed to this insect."

A series of experiments with stomoxys, and simultaneously with mosquitos—mostly of the Culicide—are

detailed, but were negative.

"Experiments to test the life of the larvæ from worm nests placed in cow dung showed that they were not capable of surviving for 24 hours. Owing to the short life of the larva outside the body and also in view of the fact that no permanent natural water existed on the island it seems improbable that a water or moisture-dwelling invertebrate is the intermediate host."

dwelling invertebrate is the intermediate host."

"In connection with the possible transmission by biting insects or other invertebrates the incidence and description of a long series of flies are enumerated.

description of a long series of flies are enumerated.

"The source through which Onchocerca gibsoni was introduced into Australia has previously been discussed by Cleland and Harvey Johnston, who suggested that it had been introduced with buffaloes into the Northern Territory of Australia, and Gilruth and Sweet, who considered that it had been introduced by means of ordinary cattle from Java or some other of the Malay Islands. The authors now state that 'a further consideration of the sources from which cattle were imported into Australia in the early days of settlement, together with greater detail as to the distribution of worm nests in cattle in New South Wales, has made us reconsider both these possibilities and we have now come to the conclusion that it is by no mean improbable that Onchocerca gibsoni reached Australia amongst the early importation of cattle from India into the neighbourhood of Sydney and from this source spread northwards with the distribution of cattle.'

with the distribution of cattle.'
"With regard to the probable vector the authors conclude that it is unlikely to be Stomoxys or mosquitoes but that it is probably some tabanid; the distribution of onchocerciasis seems to correspond with the prevalence

of tabanids."—Tropical Veterinary Bulletin.

ABSTRACTS FROM FOREIGN JOURNALS.

MAGNESIUM SULPHATE IN TREATMENT OF TETANUS.

Many veterinarians and medical men have already testified to the powerful influence which aqueous solutions of magnesium sulphate, employed as intravenous, intra-muscular, hypodermic, and intra-spinal injections, exercise in the treatment of tetanus. F. Romero Hernández, a Spanish veterinary Surgeon, has recorded the following successful case.

The subject was a mare, five years old and in a good state of nutrition, affected with an attack of tetanus of very rapid and acute course. Among the symptoms the author mentions trismus, pleurosthotonos, rectification of the dorso-lumbar line, nystagmus, dyspnea, intense fever, and rapid loss of condition. Treatment with hypodermic injections of magnesium sulphate was decided upon; though, in view of the gravity of the symptoms, very slight hopes of success were entertained.

The treatment lasted twenty-two days. At first, injections of camporated oil were given with the object of re-inforcing the heart; and these were alternated, for the first four days, with a daily hypodermic injection of 30 c.c. of a 20% aqueous solution of magnesium sulphate. No improvement resulted; and the animal managed to take only watery and green food with great difficulty. After

the fourth day the dose was augmented to 40 c.c. of a 50% solution of magnesium sulphate; and the effects of this were manifested the next day by a tendency to the disappearance of the trismus and tetanic contractions and to reduction of the temperature.

This second stage of the treatment lasted three days. The author then resorted to a dose of 40 c.c. of a solution of maximum concentration of magnesium sulphate in boiled water cold. This dose was given for ten consecutive days; and the results "could not have been better." For the remainder of the time until recovery the doses were given on alternate days, or every three days. Along with this treatment, the wounds were subjected to antiseptic and aseptic measures.—(Revista de Higiene y Sanidad Veterinaria).

LAMENESS AS A DIAGNOSTIC SIGN IN THE SUBCUTANEOUS MALLEIN TEST.

Fayet has made an interesting communication upon this subject to the Central Society of Veterinary Medicine. He says that the local reaction following the subcutaneous injection of mallein is frequently accompanied by difficulty in the movements of the limb of the side corresponding to the swelling. This symptom, in his view, has not received the attention it deserves from veterinarans. The difficulty is especially manifested in the extension of the limb; the scapular region is immobilised when the limb is moved, and the weight is thrown almost entirely upon the opposite limb. These manifestations are not so apparent and complete unless the local reaction is very intense. In a case of slight reaction the lameness is only perceived as the horse leaves the stable, lessens when a few steps are taken, and becomes imperceptible at the trot.

This lameness is a small secondary sign of the reaction to mallein, which should not be forgotten. It follows that the mallein should be injected towards the inferior third of the neck, and that, before giving the injection, the horse should be tested to establish the non-existence of lameness.—
(Revista de Veterinaria Militar). W. R. C.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON.

At a meeting of the Board of Examiners, held in London on July 9th, 1917, for the Written, and on July 10th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:—

Ir. T. F. Arnold	Mr. C. S. Northcott
P. W. Blove	L. P. Pugh
R. B. Crichton	E. A. Rucker
J. S. Garewal	F. C. Scott *
J. W. Knowles	E. Wallace
T. L. Lewis	J. H. M. White
K. A. Miles	t a secondario

J. G. Hoban T. Hodgins

C. A. Ewing T. Fitzpatrick

J. Heffernan T. J. Hurley T. Kelleher *

Mr. S. Anderson

The following passed	their Third Examination:	The following passed their Second E	xamination
Mr. H. R. Allen G. Barnett * R. W. Down C. W. Heane F. H. Jones	Mr. D. E. MacRae J. McCunn* B. Sayer W. A. Williams	D. J. Donelly P. J. J. Fourie J. Ma M. W. Henning M. F.	McGowan
The following passed	their Second Examination:		
Mr. A. Bakar W. J. Leyshon J. S. Margarson	Mr. P. Matthews J. R. Pratt *	Mr. W. Anderson P. V. Byrne Ine following passed their First Example 1 Mr. A. A. J. Mu	Hamilton *
The following passed	their First Examination:	W. G. Emerson J. O'I	Nowlan * Ceeffe
Mr. A. S. Canham	Mr. J. E. Thomas	S. A. Evans * T. Tit	nony †
H. L. Hobson C. R. A. Powell	C. N. Thompson R. W. A. Watchorn †	management.	on in Stabl
	S IN LIVERPOOL.	Mr. D. Brophy T. F. Moran J. J. O'Donovan † Mr. G. We W. W.	
The following passed	their Final Examination;		
Mr. J. J. M. Barry	Mr. E. P. Shallcross	The following passed the Examinat Anatonomy:	ion in Junio
R. Gorman E. A. Pearce	T. A. Elam J. B. Garside	R. J. Nolan *	
	S IN EDINBURGH.	Marked thus † passed with First Class Marked thus * passed with Second Clas	Honours.
	their Final Examination:		
Mr. R. E. Bond			
F. Christopher	Mr. W. S. Petrie * J. P. Rice	SUBSCRIPTIONS TO R.C.V	7.S.
T. Grahame A. F. Lamont	H. M. Roemmele	The Secretary of the Royal College	of Veterinary
	1	Surgeons begs to acknowledge the receipt ing subscriptions for 1917:—	of the follow-
	their First Examination:		
Mr. R. L. Creery H. F. Downie J. Judge	Mr. J. K. Irvine J. McAllan, M.A. * J. R. Rider *	J. L. Barling, Hereford T. A. Blake, Capt. N.Z.v.c. J. C. Deville, Ottoxeter B. Gorton, Ilford	£1 1 0 1 1 0 1 1 0
The following passed	their Second Examination:	B. Gorton, Ilford W. A. Jelbart, Major A.V.C.	1 1 (
Mr. J. Davies	Mr. G. B. Purvis	R. H. Knowles, Capt. A.v.c.	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
A. B. Hendry	E. J. H. Sewell	H. M. Lenox-Conyngham, Major A.v.c.	1 1 (
W. C. Miller		D. Macdonald, Major A.V.C. H. V. M. Metivier, Capt. A.V.C.	1 1 (
The following passed	their First Examination	S. H. Nye, Loughton	1 1 (
Mr. A. K. Cameron	Mr. A. M. Graham	H. H. Roberts, Leatherhead	1 1 (
N. M. Clayton R. Dunwoody *	W. A. R. Ogilvie	Previously acknowledged	790 5 (
in Dun woody			£801 16 (
EXAMINATIO	ONS IN DUBLIN.		
	ents were successful in the	THE VETERINARY MEDICAL AS	SOCIATION
	their Final Examination;	OF IRELAND.	
Mr. S. Conway	Mr. H. C. I. Kelly	(National V.M.A.—Irish Bran	NCH).
S. R. J. Cussen	G. McElligott		
T. J. Eastwood A. Hayman	R. W. M. Mettam *	EPSOM SALTS IN CATTLE DIS	EASES.
J. G. Hoban	H. O'Neill A. P. Preston	An address by Mr. J. B. Dunlop, M.R.C	.v.s., given at

A. P. Preston W. L. Sinton

Mr. J. A. McCutcheson

B. S. Parkin *
W. L. Smyth
D. P. White
W. F. White

The following passed their Third Examination:

SOCIATION

EPSOM SALTS IN CATTLE DISEASES.

An address by Mr. J. B. Dunlop, M.R.C.v.s., given at the meeting in Dublin, on November 11th, 1916.

[The reporter's notes of the business of the Association and the discussion on the paper have gone astray.]

President and Gentlemen,—I have been asked to bring before you for discussion some subject that might be of some interest to this Association. I have much pleasure in acceding to the request. I esteem it an honour to be invited to select the subject, and the honour is enhanced by the fact that I ceased long ago to be an active member of the profession.

Although I have had considerable experience as a clinician, that experience was restricted to a comparatively short period, and I fear my ideas may be rather out of date. However, it is satisfactory to know that there are gentlemen here to night whose practice has been extensive and has extended over a lengthened period, who still have the honour to be actively engaged in alleviating pain, saving valuable property, and in-directly saving the lives of their fellow creatures. That being so I shall have little more to do than to introduce the subject. The expressed opinions and theories of our younger members will be much appreciated. They have had a much better education and practical training than we older members received. In my student days bacteriology was unknown.

It has often been said that more people have been killed by the lancet than by the lance. About 70 years ago, after the horrible practice of blood-letting had been constantly in use for ages, a number of members of the medical profession who dared to think for themselves, and who refused to be trammelled by tradition, abandoned the use of the lancet altogether. They noted results and made their reports, and the practice soon

came to an end.

The end of blood-letting in animals, however, did not come so suddenly. Few of the present generation can realise the difficulties the older members of our pro-fession had to contend with before they succeeded in abolishing the indiscriminate abstraction of the vital fluid. They had to exercise the greatest tact and patience, or alternatively accept a dissatisfied and

dwindling clientèle.

There is a crying evil which, I believe, has prevailed for centuries, which is still in vogue, and which I would like particularly to bring under your notice this eventhat is, the indiscriminate use of Epsom salts, which, up to a recent date, has been very common. I admit that many medical authorities still consider it an excellent purgative, and I have no doubt that it is— when given under special circumstances and on medical advice. As now used indiscriminately in country places I am convinced that it saves a considerable proportion of the population from dying of old age. In any case it is a mistake to suppose that any medicine which may be beneficial to man should, in like circumstance, be equally suitable for diseases of our domesticated animals. I am convinced that Mag. sulph. as commonly administered to cattle, as an aperient for indigestion, constipation, or impaction, is a poison, more especially when there is a tendency to fermentation of stomach contents. I know that when given in one small dose in one or two obscure specific or dietetic diseases it is a veritable poison.

I have reason to believe that many experienced veterinary surgeons have discontinued the use of Mag. sulph. for cattle. Shortly after I left college I abandoned its use as an aperient. I know it is still the sheet anchor

of the empiric.

I have a great respect for the medical faculty. Numerically we are an insignificant body, but that is no reason why we should not strike out lines for ourselves as, indeed, we have done in the past with conspicuous success in the stamping out, and in the treatment of diseases. All I ask you to do is to approach this subject with an open mind, disregard tradition, take notes and compare results, as some leading men in the medical profession did with reference to the insane practice of indiscriminate blood-letting.

Motor cars are being made more efficient and more

reliable every year, and are likely to come more and more into use; fewer horses will be kept in the cities, and our members will have to give increased attention to farm stock. Motor cars, however, are not an unmixed evil. They enable practitioners to cover long distances in a short space of time, and therefore bovine tive or a laxative I always prefer Sodii sulphas. Mag-

practice will come to be more remunerative. This is one reason why I thought the present an opportune time to bring before you a subject bearing on the more common diseases of cattle.

A concise, interesting and important article on Epsom salts, by Mr. Davis, appeared recently in The Veterinary Record. Notwithstanding some pointed remarks by the editor, only one letter appeared in *The Record* expressing agreement with Mr. Davis. I was rather disappointed at this, and I did not think that such an important matter should be allowed to remain unheeded and forgotten, and I am bringing it before this Association with a view to have it fully discussed. Mr. Davis puts his facts and opinions so nicely that I cannot do better than quote his words, which are as follows:

"The common practice of administering to cattle pound doses of Epsom salts (or the equivalent in the shape of somebody's coloured drench) is, to my mind, fraught with great danger to the animals, and is, I am convinced, responsible for innumerable deaths among cows every year. I arrived at this conclusion a very long time ago, and ceased to employ mag. sulph. as an aperient for cows.

Scarcely a month passes but I get confirmation of this opinion. A cow goes off her feed, or picks just a little, ceases to ruminate, gives less than half her usual quantity of milk, and passes little faces, or perhaps none-she is said to have caught a chill, she receives a pound of salts, or a packet of Cerulean drench (coloured salts). Next day she is no better and the dose is repeated. On the following day one of two things happens. The medicine acts as an aperient and the cow recovers, or (and this is a frequent sequence) she is still found to be very ill. She rises with difficulty, there is trembling of the skin covering the hind parts, the eyes are retracted, eyelids partly closed, tears run over the face, a grunt accompanies each respiration: the brain is implicated—a condition of partial coma or of excitement is observed, and that night or the following day the patient is dead.

Post-mortem. An impacted rumen and violent inflamma-

tion of that viscus.

Several clients of mine, owners of large herds of dairy cows, to whom I have pointed out this danger, though at first sceptical as to the validity of my conclusion (since they, and perhaps their fathers before them, had for years used this remedy), are now firmly convinced of its truth, and never employ salts as an aperient for cows. Quite recently a very large dairy farmer said to me, 'Since I have stopped using salts we never seem to get any of those cases where a cow with stoppage goes off her head and knocks about, or gets sleepy like a cow with drop.' It seems likely that large doses of Sulphate of magnesia poison by a local irritation of the mucous membrane of the stomach, and, after absorption, by paralysing the nervous system. I never go to a case of milk fever where salts have been given as calving drink but I know I am in for trouble. A not uncommon result is an apparent recovery in six or eight hours, and pneumonia and death a few days after.

I am not quite sure if Mr. Davis is right in saying that pneumonia often follows the administration of sulphate of magnesia. This may be so when large doses are administered. I know that in the hands of the amateur, drenches often pass down the trachea and the results are disastrous. The poor brute which cannot make a complaint is the victim; the owner and the country are the losers. It is surprising how tolerant the bronchi are to substances—turpentine for instance—which are rapidly fatal to small organisms. The bronchi, unlike the stomach, are very absorbent, and fluids such as turpentine either quickly evaporate or become absorbed and diffused through the body, and their local effects are transient. This is not so, however, with Epsom salts or carminatives generally, which are slowly absorbed and their effects are more persistent.

It would be out of place to refer to treatment of the more common ailments of cattle, such as impaction and constipation, but perhaps I should say that as a purganesii sulphas is proverbially "windy," and the ox with his complex organs of digestion is peculiarly liable to tympany. It is different with the horse. Mag. sulph. in small doses passes rapidly through the small stomach of the horse, is quickly absorbed, passes off by the

kidney and acts as an excellent eliminative.

I do not suggest that Epsom salts as a medicine for cattle should be removed altogether from our pharmacies. I disapprove of it as given to cattle in the usual substantial doses, and would not use it at all in certain ailments. I am of opinion that it has considerable value in some cases as an eliminative when combined with other suitable salines. It appears to increase excretion generally, but in fairly large doses it seems to diminish all the secretions. It appears to diminish the quantity of mucin secreted, or excreted, as the case may be, and to reduce the viscosity of mucus, so that it is more readily removed from the surface of the membranes. Healthy or normal mucus is a wonderful fluid. It entangles, envelopes and paralyses micro-organisms. It is a necessary protection and lubricant to all mucous membranes. When mucus is abnormally thin, bacteria penetrate the lining membranes of the viscera more readily, and without the interposition of the viscid film ordinary ingesta act as an irritant. It is easy, therefore, to understand why mag. sulph. acts injuriously when given in what might be termed effective doses.
Curiously enough, when cold is applied to the surface

of the body it has effects somewhat similar to the administration of Epsom salts. For example when the loins are unduly exposed to cold it is not very unusual for the bacteria always present in the intestines to penetrate the membranes and invade the kidneys. The first effect of cold is to dry up the contiguous mucous membranes and to lower their vitality, so that it is as if the bacteria had received a roving commission to leave their natural habitat, where they are useful, and make a raid on any of the organs in the vicinity which might happen to be debilitated for the time being. The study of the effects of cold as applied to various parts of the bodies of man and animals is, I think, most interesting.

We know that digestion is largely under the influence of the nervous system, and we know that fermentation of the contents of the rumen rapidly ensues after "choking." That is believed to be due to reflex action on the fibres of the vagus which lead to the rumen. If, as we are told, there is no gastric or bactericidal fluid secreted in the first three stomachs, that their function is merely to macerate, and that digestion in them is due to the presence of ferments and enzymes in the food, why should tympanitis set in so suddenly after "choking?" I can assure you it is not due to the absence of vigorous churning movements in the rumen. I may incidentally mention that many cows are destroyed by the use of the probang in "choking," and it should be used as seldom as possible.

It is known that rumination ceases when the supply of fluid is cut off. It has been said that this explains the "necessity of enormous salivary secretion" in ruminants. This is an additional reason why no medicine calculated to arrest salivary secretion should be em-

I have said little with reference to the positive treatment of the more common diseases of cattle, but I know

I can safely leave that matter in your hands.

Needless to say the medical profession has long been engaged in a great and beneficent work in the cause of humanity. It condemns, as far as possible, the habitual use of laxatives, but it has the "quack" to contend with, who is able to spend enormous sums in advertisements. If the medical faculty is engaged in this good work surely it is up to us to be engaged in the further saving of valuable property, and so benefit humanity by increasing the supply of foods which are essential to the health and well being of the people.

Mr. Dunlor, in reply, said: I am quite in agreement with all the speakers who eulogise the use of Epsom salts for horses, especially when put into a bucket of water and placed before the animal at a medium level. I never drench a horse in cases of pneumonia, pleurisy or influenza, and I might say the same with regard to colic and enteritis, but I wish to emphasise the fact that the paper has reference to cattle and their common ailments. When I mentioned that Epsom salts was, in some diseases of cattle, a veritable poison, I had in my mind an obscure dietetic or blood disease, which in some districts prevails in cattle when there is excess of rain and deficient sunshine. The symptoms are not very definite; the animal has no desire for food or drink, the pulse is normal and temperature subnormal; the animal is listless and a very slight twitching of the muscles may be observed at the triceps. It is rather curious that this disease is rarely or never seen in seasons when "grass staggers" is prevalent in horses.

In cases of choking I daresay the usual gases are prevented from passing upwards, while at the same time the cow is unable to swallow the salivary secretions which are essential to digestion.

I know that a good deal of harm is often done by passing the probang. Much force should never be applied. An oblong rectangular piece of turnip may be forced crosswise in the resophagus and thus cause rup-ture, which is usually fatal. In such cases the animal may be relieved at once by introducing the trocar. The trocar and cannula should never be employed until a small incision is first made through the skin by the scalpel or penknife. When the trocar has been properly secured the cow appears comfortable, and the piece of turnip soon becomes dissolved by the saliva. It is often said that in cases of tympany fermentation does not take place in the rumen. Be that as it may, speedy relief is often afforded by giving disinfectants or antiseptics. I have seen marked benefit follow the administration of the old-fashioned remedy—an egg-shell full of tar, and there is little doubt that the tar passes directly into the rumen. I have seen cases of acute tympany, due to forced feeding of dairy cows on grains, bran, hay, etc., when it was necessary, after making a small opening in the rumen, to keep the opening clear by the continual use of an extemporised piece of hooked wire, and the fermentation of the contents as they were

being removed was plainly visible.

I remember Prof. Dick, in 1858, recommending the combination of common salt with a purgative, for cattle. It not only increases the action of the purgative, but it induces the animal to drink. Without fluid digestion in

the ox entirely ceases.

I need not tell gentlemen of your experienc that there is a knack in drenching cattle, that the head should not be over-elevated, and that salt especially should be carefully drenched. In some diseases of cattle salt is curative; notably so in red-water. We should, how-ever, bear in mind that it has been experimentally proven over and over, that cattle and some other animals thrive better without it. There are few subjects more interesting than the study of the effects of salt and other salines on man and animals. Probably human beings use far too much salt as a condiment. A mild flavouring, I think, is all that is required. Probably it has some tendency to cause scurvy, warts and tumours, and it also tends to roughen the skin prematurely. Some salines have the opposite effect. Some salines are prone to induce hemorrhages of the mucosa. A few grains of Epsom salts to a gallon of water, to be used for culinary purposes, is an effective preventive of lead poisoning where certain household water supply passes through leaden pipes. The habitual use of these salts in sensible proportions is injurious.

I cannot quite agree with those who advocate the indiscriminate use of nux vomica in combination with aperients. In many cases the viscera are congested, or may be they require a rest. It is often advantageous in such cases to give a gentle, non-irritating aperient—one likely to act on the alimentary canal generally, and the animal should have plenty of fluid—a little and often.

It is difficult at all times to prevent the attendant from forcing gruel, etc., down the cow's throat. The results of such a practice are often disastrous. The hardest job you ever give an attendant is to ask him to

do nothing.

Gentlemen, the kind reception which you have given to the paper—a very common-place one—is much appreciated.

VICTORIA VETERINARY BENEVOLENT FUND.

A meeting of the Council was held at 10 Red Lion Square, London, W.C., on Thursday, July 5th, when the following were in attendance:—Mr. S. H. Slocock, in the Chair; Messrs. N. Almond, G. A. Banham, W. F. Barrett, F. W. Garnett, P. J. Howard, H. A. MacCormack, A. E. Mettam, W. J. Mulvey, T. S. Price, Sir S. Stockman, H. Sumner, R. C. Trigger, E. A. West, and the Hon. Secretaries, Messrs. P. J. L. Kelland and F. Bullock Bullock.

The minutes of the previous meeting having been

published, were taken as read, and confirmed.

Apologies for absence were received from Maj. W. S. Mulvey, Prof. Dewar, Mr. F. L. Gooch, Maj. Abson, Maj. Hobday.

Appointment of President and Vice Presidents. Mr. S. H. Slocock was unanimously re-elected President, and the following were elected Vice-Presidents: Messrs. J. Dunstan, T. S. Price, H. Sumner, and E. A. West.

Correspondence. A letter was read from Mrs. Shipley thanking the Council for the vote of condolence on the

death of her late husband.

C. G. Wilkinson

Woodger and Broad

J. Willett

A letter, dated 27th April, was received from the Secretary R.C.V.S. stating that no objection would be raised to letters being addressed to 10 Red Lion Square

on the business of the Fund.

Secretaries' Report. The Hon. Secretaries reported that since the previous quarterly meeting the following

new subscriptions had been received :-

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T. B. Arnald		£1	1	0	
N. Bissett, Lieut. A.V.C.		1	1	0	
J. B. Buxton		1	1	0	
D. C. Greene, Capt. A.v.c.		5		0	
J. S. Keane, Lieut. A.V.C.		1	0	0	
W. M. Mitchell, Capt. A.v.c.		1		0	
A. Over		1	1	0	
S. L. Slocock, Capt. A.v.c.		1	1	0	
Mrs. W. K. Stewart			10	0	
P. T. Saunders, Capt. A.v.c.			10	6	
Members who have increased their	subscript	tion	ıs :-	_	
W. C. B. Revill, Capt. A.V.C.			1	0	
A. Spicer	,,	2	2	0	
J. Temple	,,	3	3	0	
H. Mason (as from 1918)	"	2	2	0	
D. A. E. Cabot	,,	1	1	0	
The following donations have been	received	:			
A. S. Adams		£1	1	0	
A. Gofton, Capt. A.V.C.			10	6	
E. H. Leach		1	0	0	
W. W. Smart		1	1	0	
A. Whicher		1	ō	o	
A. Whicher		0	0	0	

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The usual payment of £3 10s. per month had been received from Mr. E. A. West, acting Treasurer for Boltons Cinema Fund. Mr. West had directed that all donations received from the Fund after 31st December, 1916, were to be used for current relief.

Cases. No. 25. It was reported that the National Veterinary Benevolent and Mutual Defence Society had decided to pay a grant of 7/6 per week in this case, and it was thereupon resolved that the Council's grant of 5/per week be discontinued for the present. The President and Treasurer were, however, empowered to renew the grant if found necessary.

No. 26. The Hon. Treasurer reported that enquiries made in this case had been satisfactory, and that the grant of 5/- per week authorised at the previous meeting

had been paid.

No. 27. The President reported that this case had been laid before him by Mr. Barrett, and that after enquiries he had decided that immediate assistance was necessary. He had, therefore, authorised the Treasurer to pay a grant of 10/- per week as from May 1st.

Mr. Sumner reported that an application had also been laid before the National Society, and that a grant of 7/6 per week had been made. It was thereupon resolved that the grant of 10/- per week be discontinued, but that in the event of the recipient applying for and obtaining an old age pension, a grant of 5/- per week be made.

No. 28. The Hon. Secretaries submitted a report on

this case, together with a communication received from the Charity Organisation Society. It was thereupon

resolved that no action be taken.

No. 29. An application from a widow with four reported that a similar application had been made to the National Society. It was resolved that a grant of 5/- per week be made for the present quarter, and that in the meantime further enquiries be made.

No. 30. Daughter of a M.R.C.V.S., aged 64. Blind in one eye. Income £60 a year. This application was carefully considered, but in view of other and more pressing demands on the Fund it was resolved that no

action be taken.

Ex-officio Members. Mr. Garnett proposed, Prof. Mettam seconded, and it was resolved: That the Trustees, Hon. Secretaries, and Treasurer be ex-officio

members of the Council.

Bye-laws. On the proposition of Mr. Garnett it was unanimouly resolved: That it be left to the President and Hon. Secretaries to prepare a draft of revised byelaws, and to submit the same for consideration at a subsequent meeting of Council.

Representatives of the Fund. It was resolved: That in any revision of the bye-laws provision be made for the nomination of Representatives by each Veterinary Medical Association on the Council of the Fund.

London Orphan School. Mr. Garnett reported that he had votes at his disposal for the London Orphan School, and that if necessary he could secure altogether 10 votes.

Accounts for payment. Accounts were submitted and ordered to be paid. It was also resolved: That the usual grants be continued to present recipients.

Appeal for funds. It was resolved:

(a) That an appeal for funds be addressed to all members of the profession. A draft circular submitted by the Hon. Secretaries was read and approved.

(b) That 100 collecting boxes be procured at a cost not exceeding £5, to be supplied to members and to Veterinary Associations willing to take them; the contents to be transmitted to the Hon. Treasurer on the 1st of December in each year.

ROYAL (DICK) VETERINARY COLLEGE, EDIN-PRESENTATION OF PRIZES.

The Secretary for Scotland, Mr. Robert Munro, K.C., M.P., presented the prizes to the successful students at the Royal (Dick) Veterinary College, at the College in Edinburgh, on Saturday. Professor Rankine, chairman of the Board of Governors, presided, and among those on the platform were Lord Provost Sir J. Lorne MacLeod, Mr. C. E. Price, M.P., Principal Sir Alfred Ewing, Sir Robert Wright, chairman of the Scottish Board of Agriculture; Sir Hugh Shaw Stewart, Sir James Russell, Mr. A. I. M'Callum, and Principal

The Chairman said that the Williams Memorial Prize had been awarded to one of their graduates, Mr. George Howie. This prize was open to the graduates of all veterinary colleges in Great Britain and Ireland. Since the outbreak of the war the College had been solely concerned with the training of those who were to become officers in the Veterinary Corps. He might mention that whereas in the South African War the mortality rate among horses was 50 per cent.; in the present war it was under 10 per cent. in 1916. A total of 300 graduates and students of the College were on military service. One had received the D.S.O., five the M.C., one the D.S.M., and 24 had been mentioned in dispatches. One member of the teaching staff had been awarded the Military Cross. (Applause.)

The prizes were then presented by the Secretary for Scotland, the "M'Farlane" prize for the best student being awarded to Mr. W. S. Petrie.

Mr. Munro said that was, he thought, a notable day in the history of the institution. They were installed in their new home, and he supposed for the first time in that building the ceremony of presenting prizes on what he thought was called commemoration day was taking place. All who were concerned in bringing about the fruition of their hopes in this matter, all who had helped, not only in the inception, but in the carrying out of the enterprise which had resulted in the construction of that building, with all its splendid appointments, were of the most sincere felicitations. When he thought of the difficulties in these days in regard to labour, material, and transport, then he thought the management of that institution were to be very heartily congratulated on having triumphed over those diffi-culties. They had always been proud, and justly proud, in Scotland of their education, be it University, public school, secondary or elementary, and not less had they a right to be proud, he thought, of the position of veterinary science to-day. When he recalled—he was speaking on information now—that less than 100 years ago in Scotland there were no educational facilities at all, and when he recalled that within the intervening years they had sent out from the Dick College no fewer than 5000 skilled veterinary surgeons to every part of the worldof the five veterinary colleges in United Kingdom three had at their head graduates of the Dick College (applause)—and when he recalled that now two University degrees were open to them; when he found them housed in that building, then he thought he was justified in saying not less were they proud of the educational facilities in Scotland which pertained to veterinary And a more important subject than that science, both on the research side and on the educational side at the present day, one could not conceive. There were two subjects which were on everybody's lips and in everybody's minds at the present moment—agriculture and public health; and on both these subjects veterinary science had much to say. He had always been interested in agriculture; he always would be interested in agriculture, whether in office or out of office; and anything which he could do to further its interests would be done

with the greatest possible pleasure. Veterinary science, as he understood it, took to do with infectious diseases with which agriculture had got to combat, and not only deal with the curing but with what was even more important—the prevention of those diseases. In public health they knew the services that veterinary science had rendered, and they were very grateful for them. As to military operations, to-day veterinary science had proved that it could bring about a sweeping reform, such as was testified by the figures which Professor Rankine had read. He was sure, whether they considered the bearing of their science on public health, on agriculture, or on military operations, they would find its importance is not overestimated.

That institution and the science taught there would always be associated with the name of Mr. Dick. He had been reading the history of their institution and the endowment which it provided, and it was an interesting story. He had also been reading the recent history which culminated in the construction of that great building, and he was sure they were grateful to all those bodies and persons who had helped to bring the institution to the stage at which it had reached that day. (Applause.) He was told the institution was not just clear of debt, and he was also informed that a sum of some £1700 would bring about that most desirable result. He wanted to tell them that day that he had authorised the payment of that sum from the Agriculture (Scotland) Fund (applause)—and he was quite sure that money could not be better expended. (Applause). He wished the institution well in the future. He could not express a better wish than that it might equal, and even eclipse, the prosperity which had attended it in the

past. (Cheers.)
Lord Provost Sir J. Lorne MacLeod, in proposing a vote of thanks to the Secretary for Scotland, congratulated Mr. Munro on the endeavour he made to keep in touch with the thoughts and sentiments of the citizens of the North. His Lordship was not quite sure if they quite realised the great facilities which were offered in the city of Edinburgh for agricultural teaching and training. Within their area culture was carried on to an extent unequalled in any other part of the country, and it was peculiarly appropriate that in the city itself the teaching of agricultural science should hold such a prominent place. In its own particular sphere the Dick College had played a prominent part. (Applause.)

Principal Sir Alfred Ewing proposed a vote of thanks to the donors of prizes, and referred to the link that bound the College to the University. He said he felt sure, after seeing their fine College, that if the time should ever come when they became affiliated to the University, the University would have no reason to be ashamed of its new daughter. (Applause.)

Mr. C. E. Price, M.P., in proposing a vote of thanks to the Chairman, took occasion to express gratitude to the Secretary for Scotland for intimating that he was to free the institution of its debt. (Applause.) The College, when it was completed, would be the best veterinary institution in the United Kingdom. hoped in a very short time to see the College properly equipped. (Applause.) In closing, Mr. Price referred to the services rendered to the College by Mr. M'Callum, and said no man had done so much for veterinary science as Mr. M'Callum had done since Mr. Dick's death.

Mr. M'Callum afterwards addressed the students on "The Career of a Veterinary Surgeon in Edinburgh from 1865 to 1917."—The Scotsman.

AWARDS.

Junior Anatomy.—Silver Medal: R. Dunwoody; Bronze Medal: W. A. R. Ogilvie. Biology.—Silver: W. A. R. Ogilvie; Bronze: T. J. Richardson; Book Prize: A. K. Cameron.

Chemistry.—Silver: W. A. R. Ogilvie; Bronze: A. M. Graham.

Granam.

Practical Chemistry.—Bronze: A. M. Graham.

Senior Anatomy.—Sir John Gilmour Medal: J. Davies;

Silver: W. C. Miller; Bronze: J. Davies.

Physiology.—Silver: J. Davies; Bronze: G. B. Purvis.

Stable Management.—Silver: W. C. Miller; Bronze: J. Davies.

Pathology.—Sir John Gilmour Medal: J. McAllan, M.A.; Silver: J. McAllan, M.A.; Bronze: J. R. Rider. Hygiene.—Silver: J. McAllan, M.A.; Bronze: J. R.

Rider. Materia Medica.—Silver: J. McAllan, M.A.; Bronze: J. R. Rider.

Bacteriology.-William Scott Silver Medal: J. Mc-Allan, M.A.; William Scott Bronze: J. Rider. Surgery.—Silver: W.S. Petrie; Bronze: D.G. Wishart. Medicine.—Silver: W.S. Petrie; Bronze: D.G. Wishart. Obstetrics.—Silver: W. S. Petrie; Bronze: T. Grahame.
Clinique.—Silver: F. Christopher; Bronze Medals:
W. S. Petrie and T. Grahame.

Parasitology.—Bronze: T. Grahame.

McFarlane Medal: W. S. Petrie.

£21 Prize: W. S. Petrie.

GLASGOW VETERINARY COLLEGE, INCORPORATED.

A meeting of the Board of Governors was held in Glasgow on Wednesday, the 27th ult. Sir Hugh Shaw Stewart, Bart., c.B., in the chair. The necessity for investigation into braxy, louping ill, and other sheep diseases which has been repeatedly urged by the governors for several years past, was again considered, and it was reported that, as a result of the steps taken, it was probable that something definite might be done at an early date. - North British A priculturalist.

REPORT OF THE CEYLON GOVERNMENT VETERINARY SURGEON FOR 1916, BY G. W. STURGESS, M.R.C.V.S. [Abridged].

The Staff included:—Four Assistant Veterinary Surgeons: Colombo—Mr. E. T. Hoole, G.B.V.C.; Nuwara Eliya—Mr. M. D. S. A. Wijayanayaka, G.B.V.C.; Kandy— Mr. G. B. de Silva, G.B.V.C.; Ratnapura-Mr. V. A. Hoole, G.B.V.C.

Manager, Government Dairy—Mr. P. C. J. Fernando; Assistant Manager, Ambepussa Farm—Mr. R. F. P. Jayawardana (acting); Laboratory Assistant—Mr. E. Duffey; and thirteen Stock Inspectors: (one of these, Mr. J. I. Apponso, at Bombay Veterinary College).

INFECTIVE DISEASES

Cattle: Rinderpest. The decrease in the number of outbreaks continued throughout 1916. Three Provinces were free during the year. In six Provinces the total number of cases for the year was 856, against 1493 last year. Two Provinces remained infected at the close of the year.

Foot-and-mouth-disease. Outbreaks occurred in six Provinces. There was a marked decrease compared with 1915. The total number of cases, including Colombo town and Quarantine Station, was 284 (recoveries 280, deaths four), against 2366 cases last year.

Surra. Four cases were detected during August in

Uva, two died naturally, and two were shot.

Anthrax. In three Provinces there were twenty cases: 20 deaths. This disease is extremely prevalent amongst goats and sheep imported from India. Out of 76,820 of these animals imported to the Quarantine Station, Colombo, 1196 died from anthrax—practically 11 per

Infectious ophthalmia. An outbreak of this disease occurred amongst cattle in the Eastern Province, 42 miles from Trincomalee, in May; 64 cases occurred, and all recovered under treatment. The outbreak ended in July.

Swine. The outbreak of swine septicaemia recorded last year extended into 1916. It ended in July. Total cases: 274, against 2512 last year. A possible carrier of the disease is Ctenocephalus canis, which was found

infesting sick pigs.

Legislation. Proclamation of October 27, 1916, orders that no dog shall be imported from India without a license in writing under the hand of the Colonial Secretary, and repeals Proclamation of July 30, 1910, which prohibited the importation of dogs from India.

The total number of cattle for the whole Island is 1,637,020, and the number of deaths from all causes is 15,628, giving a percentage of 954. In the year under review there is an increase of 81,786 cattle.

Inoculation with Anti-rinnerpest serum. Cattle in-oculated in 1916, 223: Remained free, 138: Became ill within a month, 85: Recoveries, 38: Deaths, 47.

Horses, Cattle, Sheep, and Goats imported during 1916.

Horses, 265; Cattle, 9200; Sheep, 11,955; Goats, 64,865.

Compared with 1915, an increase of 206 horses, decrease of 1368 cattle, and an increase of 6927 goats and sheep is shown.

Quarantine.

The Municipal Veterinary Surgeon kindly furnishes the following information:

Colombo Quarantine Station—Admitted during 1916: Buffaloes, slaughter 800 | Cattle, slaughter

milking 1,112 goats 85,354 work 1,345 Sheep and goats milking 462

Tuticorin Quarantine Depot.

The Veterinary Officer in charge reports:

The depot was worked Veterinary Assistant T. S. Alagappa Pillay till the forenoon of February 16, 1916, when Veterinary Inspector A. Rajappa took charge of the depot and continued to work till the end of the year.

The number of cattle passed for shipment during the year under report was 8731 (including calves), and that of sheep and goats 76,077, as against 9332 and 70,921 respectively during the previous year.

Foot-and-mouth disease prevailed in the depot from the end of March to the middle of June, during which time 18 affected cattle were detected, against 83 during

last year. There was no mortality.

Anthrax prevailed throughout the year under review, bnt was most marked in March and April. Eight deaths occurred among cattle and 18 among sheep and goats, making a total of 26, against 13 during the previous year. No other contagious disease occurred during the

The mortality under the head of non-contagious diseases was 16 among cattle, and one among sheep and goats. Most of these cases were due to the unwholesome water supplied for the animals at Tattaparai. A few cases of diarrhea also occurred at the depot.

General remarks. The depot that was removed to Tattaparai in January, 1915, as a temporary measure, had to remain there during the year 1916 also, for want of a suitable site at or near Tuticorin. Considering the many hardships experienced by both the dealers and their animals at Tattaparai by way of bad water, want of any material shelter, disappointment in shipments owing to irregular steamer services, and late or insufficient supply of railway trucks, the Madras Government finally decided to transfer the depot to Tuticorin, though at some disadvantage.

Considering the responsible nature of quarantine work, the appointment of an officer of an Inspector's rank was sanctioned by the Madras Government, with effect from February 16, 1916

Remarks of the Superintendent, Civil Veterinary Department, Madras, who supervises the station

As all the non-perishable goods traffic between Tattaparai and Tuticorin has been postponed since January, 1917, by the South Indian Railway Company until further orders, it was found impossible to remain at Tattaparai. The depot has, therefore, been transferred to Tuticorin with the approval of the Local Government. No permanent arrangements have been made at Tuticorin, as it has been decided by the Ceylon Government to give up quarantining on this side, and as we have been asked not to incur any further expendiditure at Tuticorn.

Kayts Quarantine Station, Northern Province.

Cattle landed, 656. All remained free from disease during the period of quarantine.

RABIES

Cases examined at the Bacteriological Institute, 23.

The Director of the Bacteriological Institute at Colombo, and the Director of the Pasteur Institute, Coonoor, kindly furnished the above information.

It is unsatisfactory to observe that the number of people who went to Coonoor for treatment, 139, shows an increase of 67 compared with 1915.

The Municipal Veterinary Surgeon, Colombo, informs me that the number of suspected cases of rabies in Municipal limits was 22. Generally it is only in those cases where people are bitten that specimens are sent to the Institute for examination.

MISCELLANEOUS.

The horses of His Excellency the Governor's Escort, the Police horses, the draught bulls of the Public Works Department, Convict Establishment, Botanic Gardens, and Government Dairy cattle have been treated when necessary.

Horses for insurance under the Volunteer Horse Insurance Scheme have been inspected as required.

The following have been kindly identified by the Government Entomologist during the year:

Flies.-Tobanus striatus (Fb.), Kandy District, in

Pycnosoma flaviceps (Mag.), the cause of Myiasis in dog's mouth, Colombo, November.

Ticks.—Boophilus australis (Fuller), Experiment

Station, Peradeniya.

Arsenical poisoning in cattle. In May, ten cattle were accidentally poisoned in Uva, owing to licking the earth floor of a veraudah which had been treated with a preservative solution, containing arsenic, to destroy white ants. The saline matter in the preparation enticed the cattle to lick the floor.

Cattle poisoning by artificial manure. In October, a cart bull was poisoned in Kandy District, owing to eating artificial manure which was found to contain

calcium cyanamide.

Castration. In April, the Stock Inspector, Northern Province, went to Delft and trained a man to castrate cattle.

GOVERNMENT DAIRY, MODEL FARM AND BRANCH FARM AT AMBEPUSSA

Government Dairy. Manager: Mr. P. C. J. Fernando. No outbreaks of infectious disease occurred during the year. Losses were due in most instances to parasitic gastritis (Hæmonchus contortus).

Eleven cows were purchased during the year at a cost of Rs. 2250.50. Proceeds of the sales of stock were Rs. 3780.93. Twenty-four heifers were sent to the Rs. 3780.93. branch farm at Ambepussa to grow up. At a moderate estimate of Rs. 50 each at a saleable age, these would have fetched an additional sum of Rs. 1200. The total working expenses were Rs. 45351.53, and the total receipts were Rs. 49309.271, giving a balance of Rs. $3957.74\frac{1}{2}$.

The total output of milk for the year was 27685 gallons, against 25596 gallons last year, the greater portion of which is supplied free to Government hos-

pitals in Colombo.

The Live Stock balance in hand in December, 1916, was: Cows, 109; Calves, 100; Stud bulls, 7; Draught

Branch Farm, Ambepussa. Manager: Mr. R. F. P. Jawawardana, Stock Inspector (acting). This farm is used for the purpose of growing young stock to come into the dairy in due course.

Live Stock balance in hand, December, 1916: 42

Heifers; 1 bull.

Model Farm. Manager: Mr. C. T. Perera until November, when he was transferred to Matara, and Mr. G. S. P. Dahanayaka took his place.

Statements of receipts and expenditure, and live

stock return for 1916 are annexed.

Total receipts, Rs. 1660.85; expenditure, Rs. 736.14; balance, 924.71.

Live Stock balance in hand, December, 1916: Rams and ewes, 32; Lambs, 15.

In conclusion, I may mention that apart from outbreaks of disease, which naturally give a good deal of trouble, the Assistant Veterinary Surgeons and Stock Inspectors carry out a great deal of unobtrusive work in keeping the main lines of transport, galas, etc., under supervision and, as far as possible, clear of disease, which entails a good deal of hard travelling. The Dairy Manager's duties entail constant attention, and in such a large establishment there is ordinarily a good deal of worry. To the entire staff I desire to express appreciation of efficient work throughout the year.

G. W. STURGESS, M.R.C.V.S., Government Vety. Surgeon. Colombo, Feb. 26, 1917.

The A.V.C. Comforts Fund.

Dear Sir,—I will be grateful if you will find space in this week's issue of The Veterinary Record for the accompanying lists of subscriptions and parcels received on behalf of the A.V.C. Comforts Fund. I regret there has been so long an interval since sending in my previous acknowledgements, but owing to illness this has been unavoidable.—Yours truly, ADELAIDE M. MOORE.

20 Parsifal Road, Hampstead, N.W. 6. July 17th.

Subscriptions received since list published June 1.

per Maj. J. A. Dixon: E.A.D. Veterinary			
	20	0	0
Mrs. Jackson, Errol		10	6
Mrs. E. R. C. Butler	5	0	0
Mrs. Alison Brown, Invergordon	1	0	0
per ,, ,, Mrs Grant		6	0
per Mrs. Mettam	8	4	0
Mrs. J. O. Andrews	1	1	0
per Mrs. Baird: from Mrs. Bell, Edinburgh	3	0	0
per Maj. H. E. Gibbs: contribution from			
No. 8 Veterinary Hospital, B.E.F.	5	0	0

. LtCol. A. Olver	2	2	0
per Mrs. Hunt. Mallow	6	10	6
per Mrs. Rutherford: further addition from			
J. Ewing Johnston, Esq.—proceeds of			
Matinée, Belfast	3	4	7
Mrs. Mackenzie, Penicuik	1	0	0
MajGen. F. Smith, C.B.	1	10	0
per Capt. W. Lenton: subscribed by No. 47			
Mobile Veterinary Section, B.E.F.	1	5	0
Capt. H. V. Fenn, A.V.C., R.N.D.	1	1	0
Capt. F. H. Wright, A.V.C.	2	2	0
Capt. F. H. Wright, A.v.c. Mrs. H. B. M. Mackenzie, St. Albans	5	0	0

Parcels of Woollen Comforts received from :

Mrs. Rutherford, Mrs. Cowan, Mrs. Fearnside, Mrs. Burke Savage, Mrs. Mcgregor, Mrs. Mackenzie, Mrs. Kirby; and from Mrs. John Perry, welcome contribution of playing cards.

R.C.V.S. EXAMS: GLASGOW V. COLL.

The following passed their Final Examination: Mr. G. L. Bradley Mr. F. McD. McKenzie

The following passed his Third Examination: Mr. A. L. Robertson

The following passed his Second Examination: Mr. J. H. Mason

ARMY VETERINARY SERVICE

War Office, July 14.

The following are among the Decorations awarded for distinguished services rendered during the campaign. The King has given unrestricted permission in all cases to wear the Decorations and Medals in question :-

PRESENTED BY THE PRESIDENT OF THE FRENCH REPUBLIC.

LEGION D'HONNEUR.-CROIX D'OFFICIER.

Col. (temp. Brig.-Gen.) J. Moore, C.B., F.R.C.V.S.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, July 14.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capts. to be actg. Majors whilst Asst. Dirs. of Vety. Servs. of a Div. :—R. H. C. Higgins (May 13, 1916); E. McK. Nicholl (from May 14 to Dec. 2, 1916); P. V. Beatty (Oct. 1, 1916); E. G. Turner (Dec. 23, 1916); E. McK. Nicholl (May 4). To be temp. Lieuts:—G. J. O'Brien (June 10); H. H.

Lefebvre (June 17).

July 17. Temp. Capt. to be actg. Maj.:—F. Chambers (June 11).
Temp. Lts. to be temp. Capts.:—L. J. Kelly (June 14);
T. J. Kenny (June 19); J. J. Bourke (June 25).

Temp. Lieut. to be temp. Capt. :- T. Dalling (July 3).

Maj. P. J. Harris relinquishes the rank of temp. Col. and reverts to the actg. rank of Col. whilst empld. as an A.D.V.S. (June 6).

Capt. (Bt. Maj.) S. Black relinquishes the actg. rank of Maj. on ceasing to be empld. as an A.D.V.S. (Feb. 9). Capt. G. Lloyd, Spec. Res., to be actg. Maj. whilst empld. as an A.D.V.S. (Feb. 9).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Capt. C. E. Norgate relinquishes his commn. on account of ill-health, and is granted the hon. rank of Capt. (July 15).

The following casualties are reported:-

DIED OF WOUNDS-Capt. A. Hoskin, attchd. R.G.A.

DIED-Pte. H. T. Reid, 17461 (Reading). Pte. F. West, E/4413 (Derby).

Personal.

On July 16th, 1917, Prof. and Mrs. METTAM were presented by the Members of the Staff of the Royal Veterinary College of Ireland with a piece of silver, in commemoration of their Silver Wedding. Prof. O'Connor, as Senior Member of the Staff, made the presentation.

OBITUARY.

FRANK A. HOLMES, M.R C.V.S., Hemswell, Lincoln. Graduated, Lond: April, 1877 Mr. Holmes died on 13th June, of heart failure.

Dr. Oswaldo Cruz.

Dr. Oswaldo Cruz, who recently died at Rio de Janeiro, at the age of 46, was one of the foremost hygienists and bacteriologists of Brazil. As Director of l'ublic Health he laboured with absolute singleness of purpose and utter disregard of political influences for the improvement of the sanitation of Rio de Janeiro. So drastic were his reforms that he once almost caused a revolution against the Government. He rigorously isolated all cases of infectious disease, and insisted on the thorough disinfection of the excretions of patients and of their dwellings. He pulled down unhealthy houses on so extensive a scale that whole quarters of the city were wiped out. He organised campaigns against mosquitos, and was untiring in devising measures for the safeguarding of human life. In this way he succeeded in three years in freeing the capital from yellow fever and plague. In 1908 he began a war against malaria and small-pox in Rio, which he carried on with great success. After much opposition he gained the confidence of his fellow countrymen to such a degree that he was accepted almost as a hygienic dictator throughout Brazil, to all parts of which he was called on the outbreak of epidemics. In 1900 he founded an Institute of bacteriology and serum-therapy in Rio de Janeiro, to which in 1908 the grateful citizens gave his name. Thanks to the energy of Cruz and the enlightened liberality of the Brazilian Government, it has grown into one of the finest institutes of parasitology in the world. There Caria Chagas discovered the cause of chronic infective thyroiditis, and much other valuable research work has been done. The proceedings of the institute are issued in a beautifully illustrated volume; it was formerly published in Portuguese and German, but since Germany has put herself outside the pale of civilization French has been substituted for the latter

[The Memorias do Instituto often contains much of interest concerning animal diseases, parasites, biting flies of the country, etc.]

Sheep Scab-difficulties of dipping.

The following excerpts are from a further letter from "Strathspey Shepherd" in *The Scottish Farmer*;* and set out more fully his views on the times of dipping in the hill districts. The present increase in scab is greater in England than in Scotland, but it is an enemy to be attacked wherever it is found.

Let us take a hirsel carrying 1000 ewes. gathered for clipping the sheep farmer and shepherds find that a hundred or so of the lot are missing. Those in hand are clipped and dipped, and the lambs would require to be done to make the best of it, and also again on being taken from their mothers about mid-August. The ewes and lambs being dipped, they are then allowed access to their hirsel, and, despite the attention given by the now depleted staffs of shepherds, many of the missing lot get mixed up with the dipped ones, as well as neighbouring flocks that might not be dipped for two or three weeks later. With the small amount of dip the sheep could then carry, dipping at this time is of very little value for hill stocks. The majority of the number missing at clipping time are most likely spread throughout the deer forests, and at this time both shooting tenant and gamekeepers generally refuse access to shepherds. Even after a gathering is done there is still some to account for which may be on the hills till December. I experienced this last year. The last ones brought in are treated, but the majority entirely miss the summer dipping. After wintering and lambing are past the sheep are put to the same grazing, and where sheep are for one summer, their desire is to get to the same quarters again, the deer forests-causing a repetition of the previous year and the missing of the summer dipping."

"I quite agree that scab outbreaks are most common in the months of September, October, November, and December. He maintains therefore that scab must be caught or prevented before February. I have already pointed out that I agree with the second period now laid down from 1st September to 15th November, though it might be thought that September is rather early to start away with for any class but lambs. What is rerequired badly is a dipping to catch and arrest the outbreaks of scab before the summer months. I therefore

still recommend a spring dipping."

* V. R., May 26, p. 500.

Rabbits and Bovine Tuberculosis.

The Cumberland War Agricultural Committee are taking steps to lessen the number of rabbits, which in some districts, owing to the lack of trappers, have become a plague. In addition to doing a vast amount of damage to crop and timber, many Cumberland farmers hold that rabbits spread tuberculosis among cattle. The theory is that where rabbits are numerous they burrow and live close together, deplete the food supply in winter, develop tuberculosis and eject infective matter on the grass, which is swallowed by the cattle, which if they happen to be in low condition, or have a hereditary tendency towards the disease, develop it in their turn. Where the rabbits are in large colonies, it is also held by some farmers that their droppings, owing to its strong nature, is harmful rather than beneficial to the herbage and to the stock grazing on it. Indeed agricultural opinion in Cumberland is coming round to the view that the rabbit ought to be totally exterminated on all good land and in plantations, and left to provide sport only on cheap hill grazings, and bracken and furze-covered waste.—North British Agriculturist.

Prussic Acid.

Prussic acid, or, as it used to be called, Prussian acid, owes its name to the fact that it was first obtained from Prussian blue. This was by Scheele, in 1782. Prussian blue itself was first produced in 1704, by a fluke, and it is curious that neither did its author suspect its value, nor Scheele, apparently, the poisonous property of its acid—there is, at least, no hint of this in the account of his discovery in his "Essays," as condensed by Nicholson in 1790. The Paris Codex was, I believe, the first Pharmacopeia to include the acid, the formula adopted for its preparation being that of Gay-Lussac, which consisted of treating bicyanide of mercury with hydrochloric acid. The P.L. of 1836 included Prussian blue (ferri percyanidum), potassii ferrocyanidum (the official source of the acid), and the acid itself in the form and under the name of Acidum Hydrocyanicum Dilutum. Its use as a weapon of war will be a reversion to savagery, the poison shell taking the place of the poisoned dart.—The Chemist and Druggist.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

				Anth	rax	and-1	ot- louth ase.	Glan	ders.†		sitic		Swine	Fever.
Perio	od.			Ont- breaks	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN. We	ek en	ded July	y 14	7	7					31	48		55	19
Corresponding week in	{	1916 1915 1914		8 6 11	8 11 11			1 2	5 3	30 30 29	53 74 37		85 96 75	65 317 1006
Total for 28 weeks,	1917			306	348			16	28	1664	3299	389	1508	647
Corresponding period in	{	1916 1915 1914		332 374 461	392 423 491	1 11	24 74	31 29 59	83 47 156	1536 479 1427	3549 1034 2516	178 157 147	2808 2585 2342	8261 11488 24614

[†] The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, July 17, 1917.

† Counties affected, animals attacked:—

Excluding outbreaks in army horses.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1516

JULY 28, 1917.

Vol. XXX.

CANINE TETANUS.

A contributor, not having seen records of tetanus in the dog, raises the question of its incidence in this animal. All authorities agree that canine tetanus is rare. Some say very rare; and these include Friedberger and Fröhner, who failed to discover a single case of general tetanus among 70,000 diseased dogs. Naturally, therefore, few cases have appeared in the journals; and possibly not a few clinicians, not having seen canine tetanus or read reports of it, are inclined to doubt its occurrence. There is sufficient testimony that it does occurone English case was reported and figured by Prof. Wooldridge in The Veterinary Journal of January, 1908, and the condition is also illustrated as well as described in Müller and Glass' book on canine diseases, and in Hutyra and Marek's work.

So far as can be gathered from the literature, it appears that canine tetanus is more frequently localised than generalised. In Wooldridge's case, the chief tetanic spasms produced combined opisthotonos and pleurosthotonos, while trismus was The symptoms vary; but generally, whether the disease is localised or generalised, they are much as in other animals. One symptom seen in severe cases is a characteristic facial distortion produced by wrinkling of the skin of the forehead. Chloral and morphine are advised as sedatives by Cadiot and Breton, and also by Müller and Glass; and it seems possible that the latter drug might be more useful in tetanus affecting the dog than in that of other animals. Text-books say nothing definite as to the mortality, and probably the existing data are insufficient to justify a comparison with that of other animals; but recoveries certainly occur, and Merillat asserts that they are frequent.

Friedberger and Fröhner remark vaguely that "partial tetanus in the form of trismus seems to occur sometimes in puppies." Hutyra and Marek say that tetanus "manifests itself especially in young dogs by transitory trismus." Müller and Glass, on the other hand, assert that "the temporary trismus seen in young animals that have eaten decayed meat should be classed under ptomaine poisoning and not under tetanus." authors previously cited say nothing of decayed food; but further information is desirable regarding these cases of "partial tetanus" and "transitory trismus," and the question of whether they are really due to Nicolaier's bacillus. Our literature upon canine tetanus is insufficient, as veterinary literature is generally concerning rare conditions; and any clinician who has experience of tetanus or tetaniform phenomena in the dog may render some service to the profession.

RABBITS AND BOVINE TUBERCULOSIS.

In The Veterinary Record of the 21st inst. appears an excerpt from the North British Agriculturist on this subject. We are informed therein that Cumberland agriculturists hold that rabbits spread tuberculosis among cattle. Their finding is that where rabbits are numerous they burrow and live close together, deplete the food supply in winter, develop tuberculosis and eject infected matter on the grass which is swallowed by the cattle who, if they happen to be in low condition or have hereditary tendency towards the disease, develop it in their turn.

This conclusion is founded on fallacy. The rabbit very rarely contracts tuberculosis even in confinement. Sir John M'Fadyean—than whom we recognise no greater authority on the subject of tuberculosis, declares that the disease has never been observed to occur among wild animals in a state of nature.

The disease the Cumberland War Agricultural Committee have in view is, to my thinking, Psorospermosis or Coccidiosis. This disease is caused by minute animal parasites—Gregarines—a species of the simplest invertebrata, possessing neither bodycavity nor nervous system (Protozoa). These parasites are found also in the digestive canal of beetles, earthworms, etc. The particular gregarine credited with this fatal rabbit-disease is Coccidium oviforme.

"Coccidiosis" is very fatal and very common indeed among wild rabbits, especially after a warm and wet spring. In fact, seasons favourable to the ravages of the liver-fluke among sheep may be said to be accessory to liver-gregarinosis in the rabbit.

I have seen probably some thousands of cases in young rabbits in Devonshire—where we are wont to speak of them as "corded" rabbits. One can pick them up weak and staggering in their seats, and they fall easy prey to dogs when in an advanced stage of the disease: further, they are often picked up dead.

The affected animals present an attenuated, pinched appearance about the loins, and a varying amount of dropsy of the abdomen, while the visible mucous membranes may show slight yellow discoloration.

I do not recall ever seeing a fatal case in an old rabbit, though the disease is common enough among them, and may be suspected by the emaciation across the loins, and ascites.

The malady prevails principally on flat, marshy land, moors, and badly drained pasturage—not on poor, hilly ground.

On paunching a rabbit found dead or killed while suffering from the disease, a very obvious condition of the liver is found. The organ is enlarged and its parenchyma is beset with whitish-yellow areas varying in size from that of a pin's head to that of a pea. These, I submit, are what the Cumberland agriculturists have quite excusably mistaken for tubercles. They are little dilatations on the course of the bile-ducts. If we prick one of these nodules a milky fluid escapes, which, examined microscopically, reveals epithelial and other débris, and numbers of egg-shaped bodies with double contour —coccidia—the causal parasites. The low-power lens suffices for their detection. They are credited with multiplying, under favourable conditions of warmth and moisture, wherever they lodge, but especially in the liver by formation of spores, and also outside the body in the open where healthy young rabbits ingest them with the herbage.

Probably the holder of a profitable rabbit-warren might best combat the scourge by dressing his land in the early spring with 8 to 10 cwt crushed rock-

salt per acre.

The Cumberland Agricultural War Committee are not concerned with the welfare of the trouble-some rabbit, but rather with the shortening of his days. There is no gainsaying the fact that when in numbers they become a plague to the farmers.

My object in penning this article is to maintain that the rabbit should not be credited with disseminating tuberculosis among the live-stock of the farm.

F. W. CHAMBERLAIN, M.R.C.V.S. Wimbledon, Surrey.

ERRATUM.

In Mr. Gray's note on excision of the eyeball, p. 25, seven lines from end of second paragraph: after "Beyond painting" add, with tincture of iodine.

CLINICAL NOTES, WITH PHOTOGRAPHS.

ENCEPHALITIS.

A parturition case in a cow. Nothing in the passage, and only the dropsical swelling to be felt in the uterus. This was punctured with an ordinary long cattle trocar, and measured fluid withdrawn to the amount of $2\frac{1}{2}$ gallons. The calf's head was then found to be turned downwards with both forelegs turned backwards. Delivery was effected

and the cow did well. The calf was without brain, or roof to the cranium. The dropsical sac was blown up with a bicycle pump for photographic purposes, but the air quickly escaped. The point of puncture can be seen in photograph.



SCROTAL HERNIA IN A CALF.

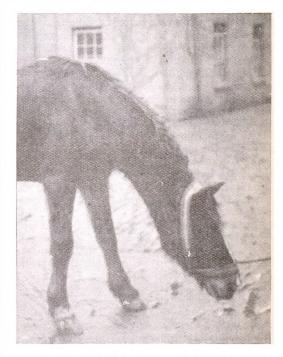


This was one of a lot of calves which the owner said were castrated with the use of the knife only. Two of these calves developed scrotal hernia. The hernia in each calf being about the same size. The hernia was reduced in each case, and clams applied and left to slough. One calf died before the clams came off, and the other a week after the clams came off.

FRACTURED CERVICAL VERTEBRAE.

An aged pony, which was found cast in the morning with the off hind leg in the halter rope.

Diagnosis. Dislocation of the cervical vertebrae.



The photograph shows the position of neck and head, which could not be raised by the animal itself or by manipulation, neither could the neck be bent.

The other photograph shows the swelling on the off side of the neck where the trouble was.

This pony was chloroformed (a sudden death being expected on reduction of the dislocation) and under the anæsthetic the neck could be straightened and bent, and the head brought into a normal position without difficulty, but as soon as the effects of the anæsthetic had passed the condition recurred. This was tried twice with the same result. The pony fed well, and might apparently have lived, but owing to his age and there being no likelihood of his being of further use destroyed.

P.M. Fracture of the wings of the 4th and 5th cervical vertebrae.



Has any member of the profession seen a case of Tetanus in the Dog? I am unable to find any record.

H. E. T. MASON.

Bishops Stortford.

MODERN (?) TREATMENT OF INFECTED WOUNDS.

By HENRY GRAY, M.R.C.V.S., Kensington, W.

Although very few veterinary authors, who must have had great opportunities in the way of observing and treating wounds of warfare, have recorded their experience for the benefit of their brethren or of veterinary science, many medical men have written upon the subject so far as men are concerned.

The general conclusions the latter have drawn and the methods they advocate are those long drawn and, for a century at least, advocated by veterinary surgeons; so one must conclude from the evidence so far submitted that military surgeons are practising the methods adopted so long in veterinary surgery for the treatment of dirty or contaminated wounds—non-suturing, exposure to the atmoshere, removal of dead or damaged tissues, and antisepsis with solution of chloride of lime, chlorinated soda (Labarraque's solution), oil of turpentine, etc.

Our forefathers termed gangrenous or putrid wounds phagadenic wounds, which we now attribute to the action of the bacillus of malignant ædema, bacillus perfringens, etc., and it is doubtful whether modern surgeons get any better results than they did.

So far as my knowledge and experience go the principles advocated were, and have been, traditional and known to most of the former teachers and their followers with whom I have been fortunate enough to come in contact during my professional career. Such men were good observers, had independent characters and cared not a tinker's damn what the general public thought of them or the fashion set by a class of medical authorities, whose thought was mostly of a peripatetic description. Of recent years practitioners seem to have weaker characters, following every fashion and aping the methods of those whose means are different with the object of pleasing the whims of the public who they should have enlightened with ideas of originality and thus brought credit to their science and practice. To not bandage or suture a soiled wound was sacrilege in the eyes of a certain section of the public and to those cringing practitioners who supported the publie in their mistaken notions, even to the detriment of those practitioners who did not follow mere fashion because it was a fashion—likely to be cast aside as soon as another fashion came into vogue. Truth is truth and will always remain so in spite of those who may endeavour to prove it a heresy. Modern research and experience gradually confirms many of the older observations, experiences and conclusions, but when all is said and done it is not modern because it is true.

Chloride of lime, hypochlorite of soda (formerly termed Labarraque's solution), oil of turpentine, and other resinous extracts, iodine, Friar's balsam, common salt, sulphates of copper and zinc, chloride of zinc, perchloride of mercury and other agents were long ago used by our forefathers in the treatment of dirty, foul or gangrenous wounds before anything was known of bacteriology, antisepsis or asepsis. Our predecessors tried first one thing and then another and watched their effects. They experimented in practice as the scientist experiments in the laboratory. Weren't they just as much scientists as the latter is termed? The aim of all knowledge is to use it economically and effectively; that is, to get the best results with the least expenditure of energy.

Jenner, who did not discover vaccination, as is generally asserted, established his conclusions from observation. Lancisi's advocacy of the stamping-out method in 1713 has long since been established by the practice and observation of others. Does the modern scientist do any more? He may have finer means of investigation, but does he get any

better results?

Let me repeat, no advance is going to be made in our science or practice by merely copying others whose means and conditions are different to ours. There is plenty of scope in our own field for our powers of observation, reasoning and recording. In fact, there are many untrodden fields existing in it awaiting our development of them. Judging from our periodicals one is led to believe that there is nothing more to discover in nor anything further to be said about veterinary science.

Royal College of Veterinary Surgeons.

SPECIAL MEETING OF COUNCIL.

A Special Meeting of Council was held at the College, 10 Red Lion Square, W.C., on Thursday, July 19th. There were present: Mr. Barrett, Dr. J. McI. McCall, Sir John M'Fadyean, Mr. Mulvey, Mr. Price, Maj. Gen. Sir R. Pringle, Prof. Shave, Mr. Slocock, Sir Stewart Stockman.

The SECRETARY announced that letters of apology had been received from The President, Maj. Abson, Dr. Bradley, Messrs. J. H. Carter, J. C. Coleman, J. Dunstan, P. J. Howard, and Prof. Mettam.

In the absence of the President, it was resolved that Dr. McCall, Vice-President, be elected to the Chair.

The minutes of the previous special meeting were read and confirmed.

New Bye-Law. On the motion of Mr. Mulvey it was resolved that the following addition to Bye-laws, having been passed at a Special Meeting of Council held on July 6th, be confirmed, and that the Seal of the College be attached thereto:—

"It shall be delegated to the Examination Committee to prepare and issue from time to time a list of Examining Bodies whose examinations in General Education fulfil the conditions of, and are specially recognised by, the Council."

Mr. MULVEY gave notice that at the next Meeting of Council he would move the following alteration to Bye-law 61:—

"To omit all the words after 'passed' in line 6, and to insert in lieu thereof the following words: 'a recognised examination in General Education.'"

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:—

W. N. Rowston, Major A.v.c. 1 1 A. Spreull, jun., d.s.o., Major A.v.c. 1 1 J. Spreull, Cape Colony, S.A. 1 1 O. Stinson, Marden 1 1 F. H. Sugden, Grantham 1 1	0
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DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

				Anth	ırax	Fo and-N Dise	Iouth	Glan	ders.†		sitic		Swine	Fever.
Peri	od.			Out- breaks (a)	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.						i '				1		i		
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		1914	•••	13	22			3	8	25	33	2	93	796
Total for 29 weeks,	1917			308	353			16	27	1695	3357	390	1543	659
Corresponding peried in	{	1916 1915 1914		338 381 474	399 436 513	1 11	24 74	32 30 64	84 57 164	1565 502 1452	3595 1105 2549	178 158 149	2895 2617 2435	8330 11902 25440

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, July 24, 1917.

Excluding outbreaks in army horses.

IRELAND. Week ende	d July	14							Outbreaks 	1	6	24
Corresponding Week in	$ \left\{ \begin{array}{c} 1916 \\ 1915 \\ 1914 \end{array} \right. $		1 	1 					1 4 3	3 2 7	6 2 9	31 11 19
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Corresponding period in	$\begin{cases} 1916 \\ 1915 \\ 1914 \end{cases}$		3 1 1	7 1 1	 75	 955	" 1	 3 	38 40 52	232 260 359	175 146 126	1006 847 671

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 16, 1917

Note.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

[NATIONAL V.M.A.—IRISH BRANCH.]

A General Meeting was held on Wednesday, 30th May, in the Gresham Hotel, Dublin.

There were present: Mr. J. II. Norris, President, in the Chair; Messrs. O. D. Neary, J. McCann, J. Holland, J. B. Dunlop, D. S. Prentice, C. M. Griffin, W. W. Malone; Capt. B. H. Mellon, Capt. P. D. Reavy; Messrs. W. P. Cushnahan, P. J. Howard, L. M. Magee, F. J. Daly; Profs. J. F. Craig and J. J. O'Connor. Visitors: Messrs. W. Power and W. Ridley.

The minutes of the last meeting having been read and signed, the President announced that apologies had been received from Profs. Mettam and Brown: Messrs. Wilk-

received from Profs. Mettam and Brown; Messrs. Wilkinson, Healy, and Nolans, of Birr. My colleague, Mr. O'Brien, is no doubt absent owing to the death of his father, whose funeral took place to-day; and I am sure we all regret the cause of Mr. O'Brien's absence, and we extend to him the greatest sympathy in his bereavement.

REPORT OF COUNCIL.

A meeting of the Council of the V.M.A.I. was held in the Gresham Hotel, Dublin, on 3rd May. Minutes of the previous meeting of Council were read and signed. A letter was read from Mr. J. Ewing Johnston en-

closing a circular relative to strengthening the membership of the Irish Veterinary Associations. This was

considered and a course of action decided upon.

It was proposed by Mr. Howard, seconded by Mr.

Prentice, and passed: That at the annual meeting for the election of Officers, members be also nominated for service in the Irish Branch of the National Veterinary

Association. It was decided that the next General Meeting be held in the Gresham Hotel, on Wednesday evening, May 30, at 7.30 p.m. Subject for discussion to be a paper on Sheep Scab, by Mr. W. P. Cushnahan, the paper to be

printed and circulated with the notices convening the meeting. Reporter to be employed at the usual fee.

meeting. Reporter to be employed at the usual fee.

The report was adopted.

The next item is the election of a candidate, Lieut.

L. J. Kelly a.v.c., who is proposed by Prof. Craig and seconded by Prof. O'Connor. Lately we have not gone through the formality of putting beans into the ballot box, and it succeeded very well, and I expect that on this occasion Lieut. Kelly will be elected unanimously. (Applause). The next item is the most important: it is a discussion upon a paper by Mr. W. P. Cushnahan on Sheep Scab, and I have great pleasure in declaring the paper open for discussion. paper open for discussion.

I remember some years ago Mr. A. Balfour in introducing an Amendment Act to the Diseases of Animals Act, dealing with sheep scab, said he thought that the subject was not one which would involve any oratorical display. That may be very true, but at the same time sheep scab is a subject of great economic importance, and also of great interest to veterinary surgeons, and I and also of great interest to veterinary surgeons, and I have no doubt that we will have a very good discussion. If every member gives his experience frankly we will all have our knowledge of the disease added to. I think I may congratulate Mr. Cushnahan on the style of his paper. It is absolutely free from anything in the way of being copied from text-books. It relates his own experience, and is consequently of far more value than if he sat down and looked up reference books and gave he sat down and looked up reference books, and gave us a learned dissertation on it.

OBSERVATIONS ON SHEEP SCAB.

By W. P. Cushnahan, M.R.C.V.S.

Mr. President and Gentlemen,—In selecting a subject for this meeting, I decided on one with which we are all too familiar. It is said that familiarity breeds contempt, and I have often thought that because we are so used to meeting with it, the profession has not given the study of sheep scab the serious attention it deserves.

It is common in the United Kingdom, and has a wide

distribution in most countries throughout the world.

Parasitic diseases among animals were noticed in the very early ages, and we are told that in the time of Moses special mention was made of them. Sheep scab possibly may have been "scheduled" under the Mosaic law. In the later centuries writers have pointed out the parasitic nature of certain skin diseases. In the last century sheep scab was investigated seriously with

regard to the causal parasite.

On account of its ravages among flocks it is scheduled under the Diseases of Animals Acts; it is dealt with by the Authorities, both Central and Local, with a view to its eradication. The public Press has devoted leading articles to it, urging on farmers and graziers the necessity of co-operating with the Authorities in preventing its dissemination, and, if possible, in having it stamped out altogether. It causes, both from an economic and commercial standpoint, a considerable loss to the country. In the affected animals there is the loss of qualities and quite a number of the loss of the country. wool, loss of condition, and quite a number die. menace to the sheep export trade of this country.

These reasons might be regarded as sufficient for

introducing it as a subject for discussion, but there are others. We are all aware that the diagnosis of the disease has been often criticised by the public. We are also aware that veterinarians are sometimes at variance on this point. It is on account of this difference of opinion which sometimes exists that I have been prompted to bring the subject before you. Therefore, in dealing with it, I shall endeavour to give as much attention as is consistent with a brief paper to those points which interest us—symptoms and diagnosis. A paper, however, would be incomplete if the parasitology, dissemination and eradication of the disease were not considered also.

I shall confine my remarks in this paper to psoroptic

scabies.

Sheep scal may be defined as a lesion on the skin of sheep due to irritation caused by psoroptic acari.

Symptoms. The irritation caused by these acari produces at the outset very minute papules, accompanied by exudation of serum. As the parasites multiply, they spread on the surface of the skin, and in obtaining nourishment from the blood and lymph, set up an irritation the property of which at the representation to be resulted. tation the result of which, at the very onset, is really an exudation, but simultaneously exciting a proliferation and desquamation of the epithelial cells of the part. This gives rise later to what is called "scabs" or crusts.

Now this red papule described at the outset, we do not readily see in actual practice unless particularly looked for, for after a very short time it will have a grey appearance on top. We find this little nodule then at the bottom of a single tuft of wool, and on handling it is quite noticeable to the touch. The parasite pursues its activities at the edge of the lesion, which spreads the size of a pinhead to a threepenny piece. If longitudinally, we have it as a thin grey streak. The circular patch is more common. This lesion may go on spreading in the way described, or may coalesce with others to form a larger patch. For may the larger patch is more common. form a larger patch. Even in the very early stage it will

be recognised as sheep scab, for there is something about this lesion which transmits a peculiar sensation to the touch, and which is not felt in other skin lesions in This peculiarity cannot be very well described, but I rely a good deal on it. If the lesion is handled, or gently rubbed, the animal evinces pleasure by smacking the lips or attempting to bite, or moves the head usually in the direction of the lesion, but in some cases in any direction. The lesion continues to grow, and may now be the size of a five-shilling piece. It stands up on a nigher level than the surrounding healthy skin, and is delimited from it. It is now a small crust, has a silvery grey appearance, and may be readily recognised as scab.

The parasite has a predilection for the parts of the body covered by long wool, although I have found psoroptic scab on the legs, but this was in a very old-The sternum, which is not altogether standing case. covered by long wool, is a favourite site; so also is the scrotum, which is not in all cases covered with wool. It is generally found on the withers, across the loins, buttocks, sides and tail (tails of lambs especially when we can find no lesion elsewhere, although in ram lambs a lesion may be, and often is, in existence at the same time on the scrotum). Sometimes we find it over the scapular region, where it may be a continuation of a wither lesion or independent of it. I have also noticed small lesions running on a line from the region of the humerus towards the jugular furrow, and on the neck. It is, therefore, obvious that where we suspect scab it is necessary to examine all these parts.

My own experience is that unless we actually handle the affected part, the animal may not show any sign of itching-in fact, in many cases it does not. Pruritis is not a constant symptom; for instance, on a cold, wet day, the animal will not respond at all perhaps: or when the sheep has been treated for the disease, yet the lesion may still be in existence and living acari may be

The description of the disease up to this only applies to small lesions, that is, where it so far has not become generalised. Take a case where a sheep amongst a flock in a pen has, say, a lesion of the size of half-crown; if the day be hot, we find this animal trying to rub at the nearest post, may even attempt to bite the part. But this is not always seen, for we may keep a pen of sheep under observation for two or three hours, and we do not see anything to suggest that scab exists among them. When, however, these sheep are afterwards examined, we will find one, perhaps more than one, with a very small lesion on some part of the body. It will only be necessary to touch the affected part, when it will show all the signs of pruritis. Of course, observation, if the day be hot, is a good guide as to whether scab exists or not, but if we do not see anything to attract our attention, we should not be satisfied that scab does not exist without subjecting the animals to a manual examination. I might here mention that if sheep are huddled together for some time in a hot, confined space, on being released and put in pens, if a recent lesion of scab be in existence, the affected animal will go at once to the nearest post and begin rubbing. This can be seen where sheep have been on board ship for a considerable time, confined in a small space, and in a hot part of the vessel, perhaps not too far away from the engine room.

As the disease becomes more advanced, we can see signs on a cursory glance that will arouse our suspicions of its existence. It will be observed that tufts of wool are becoming detached, the animals may be seen rubbing, and they may present a tattered-looking appearance. On examination fairly large crusts may be found on different parts of the body; these still have a greyish appearance; the superficial part of the crusts is powdery in consistence, although some of the lesions may appear purulent.

the existence of the disease in a flock, say, in a field. There is a good deal of shedding of the wool; in some cases the animals may be almost or entirely denuded of wool, or the wool may be hanging in tufts. Crusts may be seen fairly generally, or perhaps generalised over the body, and may have a wrinkled or cracked appearance. We may handle the animal anywhere, although the part we touch is apparently free from disease, and it shows signs of pruritis at once, and if we examine carefully we will find a lesion. In cases of this kind wool taken almost from any part of the body will reveal acari. In an extremely marked case we will find a crust over the whole surface of the body, even in parts where the wool still remains. Again we may have parts purulent. The colour of the lesion in some advanced cases may now be a dirty brown. On examination it may have the same powdery appearance as in the less advanced cases. some cases I have seen the crusts actually caseous.

I may here mention a case very advanced and of old standing where two sheep had strayed on a mountain, had been lost for some months, and missed the usual When found the entire body of each was dipping. affected with scab, even the legs, which were red and excoriated from rubbing. It would seem as if symbiotic scabies co-existed with the Psoroptic. Microscopic examination of scrapings from the legs failed, however, to reveal symbiotic acari.

From the foregoing one would be inclined to think that the disease can be readily recognised. It, however, like other diseases, shows certain vagaries, and in forming an opinion, we must consider other matters in

arriving at a diagnosis.

Diagnosis. There are conditions where we cannot positively conclude clinically that we are dealing with In this event we must have recourse to the cope. If the wool or scrapings be selected from scab. microscope. the proper place, and if the case be one of scab, we should have no difficulty in finding acari. If, however, the clinician does not exercise care in selecting a specimen for examination, there may be a good deal of difficulty in finding parasites. I remember on an occasion wool being sent for examination; it was evidently taken from a part which had been repeatedly dressed; the skin on account of dressings was converted into a horny This horny mass, with wool adherent, was sent to the laboratory; slides were prepared for examination, but with negative results. Later from the same flock a specimen was sent which had been carefully selected and acari were readily discovered. In some cases I have seen wool sent which from its appearance looked as if it had been taken from healthy sheep—the results were negative here too. I mention this in order to impress the necessity of exercising care in selecting a specimen for microscopic examination.

Some assert that in the very old lesion acari cannot be found. With this I do not agree. The wool or scrapings should, however, be taken preferably from the most recent lesion. You may imagine from these remarks that I am optimistic with regard to recovering This is not so. It is really a very troublesome matter, and sometimes we have the greatest difficulty in discovering the parasites. I once heard a well-known microscopist (whom most of you know) state that he would sooner see the devil enter his laboratory than a sheep scab specimen which had been carelessly selected.

There are cases, however, where the clinical appearance of the lesion is such that no doubt exists in the mind of the veterinarian that he is dealing with a case of sheep scab, yet from some cause or other the microscopic results are negative. One would ask how we are to decide? I should certainly decide on the clinical appearance. Again, we have cases where the clinical evidence may only arouse a certain suspicion. probably, too, the animal may be dressed or dipped, In very advanced cases there is no trouble in seeing and the evidence is not sufficient to conclude we are dealing with scab, but a specimen has been taken and examined microscopically with positive results. Then in this case the microscope having confirmed our suspicion, we have no option but to declare it a case of scab. This is the class of case where the microscope is

of the greatest assistance.

There are cases often in which there is a conflict of opinion between veterinary surgeons. One perhaps decides clinically that a case is not one of scab; while another, though not at the time entirely disagreeing, reserves his opinion until later when he has had an opportunity of being helped out by the microscope. If acari are found, he (the latter) at once declares it to be a case of sheep scab. His colleague, who at the outset depended entirely on the clinical symptoms, will not be inclined to alter his opinion if he places a high value

There are again, cases where the clinical evidence is not sufficient, and the microscopic examination negative. What are we to do here? There are only two courses open. Either declare it not sheep scab, or isolate the animal and adopt the policy of "wait and see." If there be any doubt that it might just be a case, by all means adopt the latter course and keep the in-contact animals under observation. The kind of cases just now men-tioned refer to individual animals. If it were a case of a flock on pasture our doubts should be more easily allayed. There will be other animals in the flock which should arouse our suspicions also. The circumstances will guide us.

In cases where treatment has been adopted, it is with difficulty we can arrive clinically at a diagnosis. I cannot do better than describe some cases which have come under my notice where they had been treated.

In one case I at once saw that some dressing had been used, but done in such a careful way that no trace of it was intended to be seen. Perhaps it had been washed off again. The disease had been arrested, partly "killed," and pruritis was absent. However, on manipulation I noticed the animal moved the head very slightly in the direction of the hand. There was no rubbing, smacking or biting, but I had seen enough to make a very thorough examination. The wool of the part was slightly discoloured, the skin looked darker than the surrounding skin which the dressing had not reached. I examined carefully, and found one or two dark patches, darkened on account of the dressing. (In another similar case it had a yellowish appearance.) My suspicions were aroused, and although the clinical evidence was practically nil, acari were found on microscopic examination. The lesions which were hardly perceptible, might have passed unnoticed. I was careful in adlation representations from the lesions such as their ful in selecting specimens from the lesions such as they were. The lesions were recent, were adherent to the skin, the wool was not easily removed, and it was with difficulty a scraping was obtained. Some writers state that in sheep scab the wool is easily detached. This may be so in an advanced and crumbling lesion, but the cases I have mentioned show this is not so where a dressing has been applied.

There are instances of dressing having been applied to the skin, notably in the case of maggots. If done recently, we can see the skin and the wool discoloured, but there is absence of a lesion. Later, this part would, if the dressing be strong, show a scurfy appearance on the skin and wool. This should not be confounded

with Scab.

There are cases where a strong maggot dressing has been applied, and as a result we get a chemical dermatitis. In fact, the superficial layers of skin become necrotic, and slough. At the edges of the slough, and immediately before sloughing takes place, the animal will show, if the parts are touched, pleasure on manipulation just as in sheep scab. However, there is no difficulty in differentiating.

After the summer dipping, if certain dips are used, e.g., arsenical, we find on lambs scabs all over the skin. These appear as if the skin were charred, but the condition is easily distinguished from true scab. Besides, on handling, the animal evinces pain more than pleasure. We see that there are many scurfy conditions due to dressings, and which sometimes trouble us as to whether the animal has been treated for sheep scab. In all these cases, if in doubt, the microscope should be resorted to.

There are other conditions on the skin which we are liable to confuse with scab. For instance, seborrhea is often met with. It is seen and assumes a putty-like appearance for some distance through the length of the

wool. It generally undergoes softening, the wool is easily detached, and there is no pruritis.

Zuill describes what he terms "Rain-Rott"—"an ecezematous disease produced by prolonged dampness of fleece and skin, and is observed on a large number of animals of one flock, disappears when the weather beoomes favourable, and pruritis is absent.

I have seen cases where the wool at the base is covered with a gritty substance, and occurs in the tail often in mountain sheep. It does not suggest sheep scab, but in

one case acari were recovered.

There are certain skin secretions which may form concretions on the wool, usually yellow in appearance, e.g., "Yolk." The skin is clean and should not give us any trouble in diagnosis. Some breeds of sheep, viz., those with thick, close wool—Southdowns—very often show intense pruritus. Examination reveals nothing. The condition is apparently due to certain secretions being pent up, evaporation is not free. These substances may perhaps become acrid or rancid, and cause the irritation mentioned. When carefully examined no scab lesion will be found. However, when we find cases of pruritus, we become suspicious. This leads me to speak of other cases. Even in the openwoolled variety of sheep we find pruritus with an entire absence of any kind of lesion. The skin is perfectly clean, and there is no trace of scab. These cases have been termed "Nibblers," and will be met with from time to time, but the condition should not be confused with the well-known and serious disease called Scrapie met with in North Britain. Extremes of temperature sometimes cause an erythema which may also be associated with hyperaesthesia.

In certain constitutional diseases in sheep, e.g., Fluke, Anamia, etc., loss of wool and desquamation of epithelium is a symptom, but the cause will easily be seen.

In spring, ewes often lose their wool.

There are other parasites which infest the skin of sheep. In maggot cases, if a nest of maggots be touched, the animal smacks with a vigour not noticed in sheep scab, and rarely attempts to bite. We should take particular pains to look for the maggots, as they may only be commencing, and if a scurfy lesion were near the spot, we might hastily conclude it to be scab. However, the character of the smacking and discovery of the maggots will settle this. Lice (T. Sphoerocephalus) are often a source of trouble on the skin of sheep. They set up a severe itching, and must be differentiated from scab. Ticks also cause a good deal of annoyance. animal will be seen rubbing, and on handling may evince pleasure, but the tick will be easily discovered.

In my earlier remarks I mentioned that the public are not always satisfied with our diagnosis. Apparently they do not use the term "scab" except where the disease is well advanced, and where it is a patent case. I remember drawing an owner's attention to a typical scab lesion about the size of a shilling. He wouldn't have it, though. He said—"That isn't scab; it is only a bit of mange." Of course many of them disagree with us just because it suits them, more especially if they have a number of sheep for shipment. They always assert in the case of dressing having been applied, that the animal or animals had been dressed for maggots,

while perhaps they are aware of the truth.

During the summer season, if maggots are prevalent, and later in the year, on account of maggot dressings, the fleece and skin become scurfy. Now this gives a considerable amount of trouble to Inspectors, say, at ports of shipment. They have to exercise more than ordinary care, and satisfy themselves that the sheep were really treated for maggots. An Inspector at a port has to think and act quickly when dealing with a case where there is any suspicion. Perhaps it is late, and the boat is ready to sail. Without awaiting the result of microscopic examination, he must decide at once. Of course if his suspicions are well founded he could hold over the flock until he had assistance, say, of the microscope. Therefore, you will see that Portal Inspectors are somewhat handicapped. They cannot adopt the "wait and see" policy; they must arrive at a decision promptly.

In the autumn of last year I had reason to suspect a case of sheep scab in two lambs which arrived with twenty-five others for shipment. I could not find any lesions on any part of the body; neither could I find anything on the tails, although in the case of one I fancied I saw on the tail a barely perceptible lesion which was hidden by dirt (the sheep had just been taken out of a waggon and had come a long journey). In the other no lesion could be found on the tail, although I In the was very suspicious regarding it. I held over the entire lot, and in about thirty-six hours from the first examination I again examined them and found well defined lesions running as grey streaks in the long direction of the tail in the case of both lambs. Acari were recovered from the lesions.

Some writers say that it requires five or six days for a lesion to develop. It is interesting to note that these lesions developed in a shorter time.

Although I depend so much on the skin lesions in diagnosis, the character of the wool should also be taken In scab it has become dry and into consideration. bleached, and has lost its natural lustre and softness. This refers more to advanced lesions: barely any change is perceptible in recent ones, and I may say none in the very recent lesion. I have noticed a pecularity in the wool of sheep which have been dipped and treated for scab, which is not noticeable in the wool of healthy sheep dipped in the usual way—the wool may not appear bleached; it is darker on account of the dip; it has a thready and teased appearance, does not appear to have grown in tufts, and is soapy to the feel.

There is a matter regarding the examination of flocks, which we know have been affected, and are said to be cured. We are asked to certify as to their health. If no trace of scab can be seen, it is usual to certify that they are "free from disease." On this point, however, I am not so dogmatic. I invariably state where no traces of the disease are evident that "I have failed to find any lesion of sheep scab." A small notice and recurrences take place. A small lesion might escape

Parasitology. It is of importance that we should know something about the causal parasite. In a paper of this kind, it is my intention to give only a brief outline of the Psoroptes communis ovis, with mention of its life cycle, on which so much depends when we attempt to deal with the eradication of the disease.

During its metamorphosis there are four stages, viz.,

egg, larva, nymph, adult.

(1) The egg is creamy white in colour, oval oblong in form with slightly flattened ends; under favourable hatching conditions in contact with the sheep's skin it may hatch out in two or three days into the larval form.

(2) The larva has three pairs of legs, the third pair ending in two long bristles. Larvæ change into nymphæ have nothing conclusive on this point.

in two days.

(3) The nymph has four pairs of legs, the fourth pair carries a bristle and a sucker. The nymphal stage lasts three to four days and develops into the adult, produc-

ing pubescent females and males.

(4) The adult: (a) The pubescent female differs from the nymph in that the fourth pair of legs carries two bristles and no sucker. The presence of a vulva and two copulatory tubercles. Copulation takes place soon after the appearance of pubescent females, and goes on as a rule for a period of 24 hours, when the pubescent female is converted into the ovigerous female. (b) The ovigerous female usually commences to lay eggs 24 hours after copulation. It differs from the pubescent female in that the fourth pair of legs carry suckers, and there is a sub-thoracic vulva.

(c) The male is smaller than the female and carries copulatory suckers, and abdominal lobes furnished with five bristles. The fourth pair of legs are very short, terminating in two short bristles, while the third pair of legs are very long and carry a sucker and long bristles.

The adult female acarus is about '5 to '7 mm. in length, in form it is partly ovoid. The males are smaller and

rounder.

The psoropt is most likely to be confused with the symbiote, but can be definitely distinguished from the latter by the pincer shaped head and the long tri-jointed pedicles carrying the suckers.

Prof. Craig, a short time ago in a paper read before this Association, dealt very fully on the morphology and characteristics of the various acari and their differ-

entiation when examined microscopically.

In the middle of last century several investigators were at work with regard to this parasite. Most writers mention Gerlach as an authority. Gerlach found that the parasite multiplied rapidly, that in ninety days one female was responsible for 1,500,000 parasites. He also found that the life cycle of the parasite, i.e., from egg to ovigerous female was from fourteen to fifteen days. Others of the older observers placed the life cycle up to sixteen days. From the most recent research the life cycle would appear to be from nine to ten days.

Very exhaustive investigations regarding the life history of the parasite have been made by A. W. Shilstone, M.R.C.V.S., in South Africa. He has been very painstaking, and goes into detail with regard to what he has done. His work is worthy of great praise and his contribution to the literature on the subject is valuable. He puts the life cycle of the acarus as nine days i.e., from the time of hatching of egg. He cites a case where one female acarus had laid ninety-three eggs, and also mentions that two females laid nearly a hundred eggs each. He also states that writers overlook the fact that the case of the female acarus quoted by Gerlach as laying twenty-four eggs was from the Sarcoptes scabiei, var. Hominis. One can readily understand how rapidly they multiply. I mention these points as they will be of assistance in studying the propagation of the disease.

Propagation and dissemination. From the foregoing

it will be conceivable how the disease can be introduced into a healthy flock. If even one ovigerous female be placed on the skin of a healthy sheep, when we consider the number of eggs that can be laid, and from which parasites can be hatched in such numbers, we can readily understand that lesions of sheep scab will soon make their appearance, and one sheep will affect a healthy flock in a very short time. Sheep scab is essentially a contagious disease, and the contagion is immediate. An unclean animal must be introduced into a clean flock. It has not been shown where mediate contagion has taken place, although some suggest that animals may act as carriers-for instance, we often see crows and magpies on the backs of sheep. However, we Probably, in dry, hot weather, the disease is not so easily propagated as in wet weather. We know that during the winter months scab seems more rampant than in summer. Shearing and dipping may influence this.

Sir Stewart Stockman in his investigations some years ago, found acari on healthy lambs, i.e., the disease has not manifested itself, the acari lived on them but produced no lesions. Can we presume that the parasite will always remain quiescent, as it were, or will it later assume a pathogonic role, and set up the disease?

assume a pathogenic role, and set up the disease?

It has been stated and generally accepted that animals in poor condition contract the disease more readily. Shilston states that fat retards the parasite in producing scab, and mentions a case where the late Dr. Hutcheon tried to infect lambs which were in good condition, but with negative results. He attributes this to the amount of grease on the skin. Our experience here is that we often find scab in lambs in good condition. I have seen many cases where sheep were purchased, taken from poor land, and put on good fattening land, when in about two weeks the disease appeared. I examined these, and was perfectly satisfied that the lesions were those of very recent sheep scab. There was no previous history of scab having been on the land where the sheep came to. However, they may have been specially selected clean sheep taken from a scabby flock, or they may have come from a healthy flock and con-tracted contagion in the fairs where they were purchased. I merely mentioned this to show that as the sheep improved in condition on good land the disease, so to speak, spurted out. I had no doubt that the contagion existed in the sheep prior to coming on the fattening land. These cases have no analogy with the case of Dr. Hutcheon's fat lambs. Now, from the cases just mentioned of apparently healthy sheep, in which later the disease developed, being introduced into a healthy flock, there is no doubt that they too (the healthy flock) would also contract the disease. The mixing of sheep at fairs and markets is a source of contagion. fairs and markets is a source of contagion.

We find lesions of sheep scab in the tails of lambs, no lesions can be found elsewhere, and in-contact animals in the flock have been found to be healthy. Why should the tail be selected as a site? Is it due to its anatomical arrangement? It has been stated that parasites retain their vitality for a longer time on manure. Would this explain these lesions? Some suggest that these tail lesions would not disseminate the disease. With this I do not agree.

Some farms are said never to be free from scab, and it is also said that fresh sheep put on these farms would undoubtedly contract the disease. So far as I recollect, Stockman made experiments, with some success, by putting sheep in infected pens but only when the infected pens had been vacant for a period not longer than eight days. Shilston made investigations with regard to this by placing healthy sheep in infected kraals, but with negative results—excepting a case where he placed the healthy animals in contact with infected manure. In the experiments the intervals between the removal of infected sheep from kraals and the introduction of contact with clean sheep were from eight days to ninety days.

days.

There is a popular idea here amongst farmers that where sheep scab has existed on a farm that the farm remains infected for a long time. Is it then a coincidence regarding farms in this country where scab had existed that they retain the infection? Possibly it is, because we know where owners have taken energetic measures to treat bad cases of scab on their farms they may not have another case again. In the case of these farms little or no disinfection had been done. Of course, very practical farmers believe that sheep, if the disease is to be got rid of, should not be put again on an infected farm for a period of three years.

Investigators have shown that acari can live apart from sheep for a considerable time, though they are not agreed as to the number of days, yet this is of sufficient importance to remember when we are considering the length of time it would be necessary to keep fresh sheep away from an infected farm or premises. From the observations of Stockman he puts the length of time eggs retain their vitality as eight days. Shilston also found the eggs did not hatch after eight or ten days. As acari live much longer, say, two to three weeks, it is, therefore, to these adults that we look for the propagation of the disease. If fresh sheep came in contact with wool, old crusts, rubbing posts, etc., on a farm after infected sheep had been removed, there is still a risk for a fairly considerable time of these sheep contracting the disease.

Another source of contagion is of interest. It has been said that parasites remain inside the ear. Henry (Alfort) states he found cachectic sheep with psoropts in their ears. Craig has found psoropts in the ears of sheep affected with the disease. We can see that where dipping is carried out the ears remain untouched by the dip, as a rule. In the case, therefore, of sheep harbouring acari in their ears, it is obvious how the disease may spread, notwithstanding dipping precautions.

The principal cause, in my opinion, in the dissemination of the disease is sales, markets and fairs—healthy sheep coming in contact with diseased. Many sheep grazing on mountains stray, and during the dipping season are lost. They miss the usual dipping. They may be affected with scab, and when they rejoin the original flock they may infect the others.

Failure of owners to report cases of scab on their farms is too common. They may treat the lesions on the sheep, but do not subject them to dipping—neither are the in-contacts dipped. They bring out apparently healthy sheep from the diseased flock to a fair or market: these develop the disease later, and the contagion spreads. In cases where prosecutions have taken place under the Sheep Scab Order the small fines imposed by magistrates do not act as incentives to report cases of scab.

Eradication and Prevention. In the treatment of affected animals segregation of diseased from the apparently healthy should be the first step. The apparently healthy sheep should be dipped. After an interval not exceeding ten days they should be again dipped. They should be examined during this interval, and any affected—any with lesions, should be placed with the isolated and already diseased sheep.

The affected animals should be treated thoroughly, all the crusts should be softened, and a dressing applied to the affected parts. Many remedies can be used—mercurial ointment, perchloride of mercury, tobacco juice, etc. It is not so much a matter of what is used, but how it is done. It should be done with a thoroughness. In a day or two after this local dressing has been applied the animals should be immersed in an approved dip. Parasites themselves are easily destroyed, but the ova retain their vitality nowithstanding dipping. Hence the obviousness of repeated dressings and dippings, allowing of course for proper intervals between dippings, which the most recent research on the subject shows to be a period of about ten days. Eggs will hatch after dipping, but Shilston states the lime and sulphur dip prevents this or destroys the larvae as they are hatched. He states this dip was largely employed in eradicating scab from from Australia.

It will, therefore, be seen where scab exists on a farm that repeated dressings and dippings will be required. Even where we are satisfied that a cure is effected, an extra dipping should be carried out for the entire flock ten days after the last dipping. In the Sheep Scab (Ireland) Order of 1905 three dips are mentioned, and recipes given.

Energetic measures must in all cases be adopted if we hope for a cure. Owners show great laxity in treating the disease, the principal thing troubling them is the

removal of restrictions.

In the prevention of the disease it will be necessary to remove and burn all "scabs," "crusts" and loose wool which had fallen off infected sheep. Notwithstanding the conclusions arrived at regarding infected farms, it would be well to have scratching posts, at least disinfected. Care should be exercised when introducing new sheep into a healthy flock. The new arrivals should be isolated for a time, and dipped twice within ten days before being put with sheep already on the farm. Even sheep when sent to a fair or market, and returned unsold, should be dealt with as new arrivals. In cases where, considering the season, dipping might be impracticable, they should be kept apart from the other sheep of the flock until the owner is satisfied there is no trace of disease among them. Sheep owners should have their flocks dipped regularly, even examined occasionally, lest a lesion might be de-

veloping, when the disease could be arrested.

The Authorities recognise the necessity of dipping for the prevention of the disease, and have made Sheep Dipping Orders accordingly. They have ar-Sheep Dipping Orders accordingly. They have arranged for two dipping periods—summer and autumn. If the sheep dipping regulations were properly carried out, I have no doubt the number of outbreaks of sheep scab would become materially reduced. Unfortunately in some instances the attempt at dipping is poor, and is done in such a way it is of little or no benefit. Farmers are lackadaisical as a rule regarding the carrying out of the regulations: it is obvious that dipping is done in many cases as a mere formality to comply with the Order. The sheep in some cases are not immersed, and the mode of immersion in others is such that dipping has not the desired effect. Cases have been noticed where sheep have been smeared with a brush, giving them the appearance of having been dipped.

It is, therefore, obvious that the co-operation of sheep owners is essential, and unless this can be obtained either voluntarily or compulsorily, we cannot hope to stamp ont the disease. When owners show earnestness: when they awake to its seriousness and realise what their own efforts would mean, much may be achieved regarding the eradication of sheep scab.

Milk inspection in Edinburgh.

The Annual Report of the Public Health Department, by A. Maxwell Williamson, M.D., B.SC., is this year, in common with other publications, greatly reduced in bulk, and we may well doubt if the community is at all the loser by the alteration. The records are both necessary and desirable, but the publication of purely local returns in so expensive a form is often mere extravagance. The only portion of the Report which touches veterinary work at all is that concerning the milk supply, from which we take the following paragraphs.

"The provisions of the Sale of Food and Drugs Acts have, as usual, received active attention, and, as in former years, it has been found that by far the largest number of cases of adulteration have occurred in connection with the milk supply. Not only have such precautions been taken in safeguarding the quality of the milk so far as its actual chemical ingredients are concerned, but the usual procedure has been adopted in order to prevent milk which might be tuberculous in character from being used by the public. Samples of country milk have, on arrival, been taken at the Railway Stations and submitted to the Professor of Public Health at the Usher Institute, for Bacteriological ex-

amination by inoculation. It is a commentary upon the strictures which have from time to time been passed on the quality of the City Milk Supply to note that while 62 such samples were examined by this most searching of all methods, in no case was the tubercle bacillus found present.

When it is added that, so far as milk produced within the City is concerned, periodic visits at short intervals are carried out by the Veterinary Inspector, and any infected animal found in a byre is at once ordered to be removed, it may appear evident that both City-produced and Country-imported supplies of milk are under such constant supervision as should tend to allay fears which have been aroused in regard to danger to the milk supply during recent years.'

Joint-ill in Lambs.

At the annual general meeting of the members of the Society of Border Leicester Sheep Breeders held at the Corn Exchange, Gorgie, Edinburgh, a discussion took place, being initiated by a letter from the Highland and Agricultural Society asking whether this Society approved of the extension of the inquiry to include calves and lambs as well as foals, and whether it would be prepared to participate in such an inquiry. It was stated that there was considerable loss from this cause in pure-bred lambs every year, and that in spite of the utmost precautions.

In the circumstances it was agreed to approve of the extension of the inquiry in the direction mentioned, and to become responsible in the meantime for a sum not exceeding £50 in aid of the extended investigation. The Council were given powers to somewhat extend this sum in the event of such being specially necessary.

Sheep Scab-"without warranty."

An action of importance to farmers has just been decided by Sheriff Sym, Perth. John Taylor, Hilltarvit Mains, Cupar-Fife, sued James Macfarlane, cattle dealer, Methen, for payment of £9 4s. 6d., being loss of dipping, etc., sustained by him in respect that on 1st September last pursuer purchased from defender 100 cross lambs affected with sheep scab, which was known to the defender and not disclosed by him. Sheriff Sym, in his judgment, says the sheep were sold without warranty, and there were no verbal representations that the defender believed them to be free from any defect or fault. The pursuer's case implied that the exposure for sale imported a representation that the sheep were free from all contagious diseases, but in a question of law as between an innocent buyer and innocent seller, the Sheriff is of opinion that the pursuer cannot maintain any warranty or representation against scab. His Lordship accordingly grants absolvitor in favour of defender, but, in view of the loss that pursuer has sustained, finds no expenses due to or by either party.

PECULIAR CASE OF FOREIGN BODY IN A HORSE.

Sir,-In The Veterinary Record, July 14, Capt. Olver wonders how the coin got under the skin of the shoulders We have in this country a disease affecting young horse. known as "Shoulder slip." In Nevada, one of the northwestern States of America, this disease is known as a "Sweeny Shoulder." The farmers (owing to the great distance from a veterinary surgeon) treat this condition in the following manner. A small cut is made right through the skin, in the centre of the wasted part, and a 10 or 25 cent piece is put in underneath the skin; then one stitch is inserted to draw the wound together. The cent piece remains, and, as a result, you have a re-development of the

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Now that America has come in with the Allies, I am sure Capt. Olver may come across some member of the American A.V.C., who will be better able to give him a fuller explanation upon this "Homeopathic" treatment. H. McConnell, v.s.

The Mall, Armagh. July 20.

ARMY VETERINARY SERVICE

THE MILITARY CROSS.

War Office, July 18.

The King has been pleased to confer the Military Cross on the following officers and warrant officers in in recognition of their gallantry and devotion to duty in the field:

Temp. Capt. James Hamilton Stewart, a.v.c., attd. R.F.A.—During the evening the wagon lines were heavily shelled. He at once went to the assistance of a wounded man; having seen him taken away, he returned to the other wounded, and did what was necessary for the horses. All this was carried out under continuous shelling.

The following have been mentioned in the Despatch from Lieut-General G. F. Milne, c.B., D.S.O., Commanding in Chief, British Salonika Force :-

Lieut.-Col. E. W. Larnder; Maj. H. C. Dibben; Capt. (temp. Maj., Spec. Res.) J. Rae; Capt (temp. Maj.) R. W. Mellard; Temp. Capt. (temp. Maj.) D. O. Turnbull; Capt., R. H. Stalker, Spec. Res.; Capt. G. Lloyd, Spec. Res.; Capt. A. J. Beckett; Temp. Capt. S. L. Symonds; Temp. Capt. J. M. Brand; Temp. Capt. E. J. Burndred.

E. J. Burndred.
Staff. Sgt. (actg. Regtl. Sgt. Maj.) J. F. Thurling, 85;
Sgt. (actg. Regtl. Sgt. Maj.) F. C. Hall, 134; Sgt.
(actg. Staff Sgt.) E. Hickson, 321; Shoe-smith (actg. Farr. Staff Sgt. S. Mason, SE/7196; Pte. (actg. Sgt.) J. Rouse, SE/4853; Pte. (actg. L. Sgt.) W. T. Young, SE/5100; Pte. (actg. Sgt.) A. H. Biverstock, SE/443; Pte. (actg. Sgt.) J. H. Filmer, SE/1427; Pte. (actg. Sgt.) W. Sullivan, SE/1493; Pte. W. W. Williams, SE/4420; Pte. F. Chandler, SE/4539.

War Office, July 23.

The following have been recommended for distinguished and gallant services and devotion to duty in the dispatch from the Field-Marshal Commanding-in-Chief, British Armies in France, dated April 9, 1917:--

Major (temp. Colonel) H. M. Lenox-Conyngham, D.S.O., F.R.C.V.S.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, July 21.

REGULAR FORCES. ARMY VETERINARY CORPS. Temp. Lts. to be temp. Capts.:—J. A. Edmunds (May 28);

A. S. Black, E. R. Corbett, A. T. Andrew, C. C. Corbett, S. F. Spurr (July 6)

TERRITORIAL FORCE, ARMY VETERINARY CORPS. July 20.

Lieut. to be Capt. :- J. Mullaney (July 11). July 21.

Lieut. to be Capt.: -W. M. Jackson (July 13).

The following casualties are reported :-WOUNDED—Capt. J. M. Richardson, A.V.C. DIED—Pte. H. W. Robinson, 23736 (Walkley).

Veterinary Societies—Addresses.

BORDER COUNTIES V.M.S. Pres: Mr. H. Barrow, M.R.C.V.S., Ireby, Carlisle Hon. Sec: Mr. R. Craig Robinson, M.R.c.v.s., Carlisle Meetings, Second Friday of Feb., June, and October GLASGOW V.M.S.

Hon. Sec. Mr. John S. Keane, 11 Falkland Mansions, Kelvinside

ROYAL VETERINARY COLLEGE V.M.A. Pres. & Hon. Sec: Mr. B. Gorton, M.R.C.V.S., M.P.S. Hon. Treas: Prof. E. F. Shave, F.R.C.V.S.

Association of Veterinary Officers of Health Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock Hon, Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S. Moore Street, Abattoir, Glasgow

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> NATIONAL VETITENARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

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Lor. Sec. Mr. L. W. Wynn Lloyd, M.R. C.V.S., Carnarvon
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Meetings, First Friday, Mar., June, Sept. and Dec.

YORKSHIRE VET. ASSOCIATION Pres. Mr. S. E. Sampson, M.R.C.V.S., Hillsboro', Sheffield Hon. Sec; Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds Hon. Treas: Mr. A. McCarmick, M.R.C.V.S., Kirkstall road, Leeds

Southern Branch:

Pres. Sir Stewart Stockman, 4 Whitehall Place, S.W.

CENTRAL V.S. Pres. Mr. N. Almond, F.R.C.V.S., Kingston-on Thames don. Sec . Mr. H. A. MacCormack, M.R.C.V.S.,

122 St. George's Avenue, Tufnell Park, N. Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A. Pres. Mr. T. E. Barcham, M.R.C.v.s., Paston, Norfolk Hon Sec. & Treas: Mr.A.C. Holl, M.R.C.v.s., New Buckenham Meetings, Second Tuesday, Feb., July and Sept.

Lincolnshire and Lincolnshire and Pres. Mr. C. W. Townsend, F.R.O.V.S.,

Long Stanton, Cambridge Ton. Sec : & Treas : Mr. Tom Hicks, M.R.c.v.s., Boston Road, Sleaford

Meetings, Second Thursday Feb., June, and October

ROYAL COUNTIES V.M.A. Pres: Mr. J. Willett, M.R.C.V.S., 6 Harley Place, N.W. Hon. Sec. & Treas: Mr. G. P. Male, M.R.C.V.S., Reading Meetings. Last Friday, Jan., April, July and Nov.

SOUTHERN COUNTIES V.S. Pres: Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex Hon. Sec: Mr. J. T. Angwin, M.R.c.v.s., Arundel (on Service Hon. Treas: Mr. E. W. Baker, M.R.c.v.s., Wimborne

Meetings, Last Thursday, Mar., June and Sept. SOUTH EASTERN V.A. Pres. Mr. E. Lyne Dixson, M.R.C.V.S., Margate

Hon. Sec. & Treas. Mr. H. P. Hogben, M.R.C.V.S. 3 Manor Road, Folkestone

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Mr. C. E. Tucker, M.R.C.v.s., 7 Greville St., Bideford (pro.tem.)
Hon. Treas: Mr. P. G. Bond, M.R.C.v.s., Plymouth
Meetings, Third Thursday, March, July and November

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Pres. Mr. A. Watson, Municipal Buildings, Dublin Sec., Mr. P.D. Reavy, Leafield, Bundoran, Co. Donegal CENTRAL V.A. OF IRELAND.

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R.V. Coll., Dublin

NORTH OF IRELAND V.M.A. Pres: Mr. A. M. Crighton, M.R.C.V.S., Lisburn.

Hon. Sec; Mr. J. A. Jordan, M.R.C.v.s., Belfast Hon. Treas; Mr. H. McConnell, M.R.C.V.S., Armagh

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Scottish Branch:

Pres. Dr. O. Charnock Bradley, Ryl. (Dick) Vet. Coll: Edinburgh Hon. Sec. Prof. A. Gofton, Muncipal Buildings, Edin. (on Service). NORTH OF SCOTLAND V.M.S.

Pres: Mr..W. Hepburn, F.R.c.v.s., Aberdeen. Hon. Sec. & Treas: Mr. G. Howie, M.R.C.v.s. Alford, Aberdeen Meetings, Last Saturday in January and August

ROYAL SCOTTISH V.S. Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty. SCOTTISH METROPOLITAN V.M.S.

Pres: Mr. J. Riddoch, M.R.c.v.s., Edinburgh Hon. Sec. & Treas: Mr. Jas. Henderson, M.R.C.V.S. Public Health Dept., City Chambers, Edinburgh WEST OF SCOTLAND V.M.A.

Pres: Prof. John R. McCall, M.R.C.v.s., Vety. Coll. Glasgow (on Service).

Hon. Sec: Mr. J. F. Macintyre, M.R.C.V.S. 19 Bank Street, Hillhead, Glasgow

Hon. Treas: Mr. Geo. W. Weir, M.B.C.v.s., 88 Crookston Street, Glasgow

Meetings, Second Wednesday, May, Oct. and January

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1517.

AUGUST 4, 1917.

Vol. XXX.

SHEEP SCAB.

The V.M.A. of Ireland has done a good service to the profession by its consideration of sheep scab. The present prevalence of the disease renders it incumbent upon every country practitioner to thoroughly consider all the details connected with it. A good paper, amplified and illuminated by an equally good discussion, which the Irish V.M.A. report provides, forms an excellent starting point

for such consideration.

Two subjects dealt with in the report are of scientific interest and perhaps not a little practical importance. The first may be called the question of scab carriers. Stockman's observations, made years ago, that the lambs of infected ewes may long bear many acari without themselves showing symptoms of scab, and Henry's more recent discovery of psoroptes in the ears of apparently healthy sheep, may explain at least some otherwise unaccountable outbreaks of disease. The second is the modern work on the life-history of the psoropt, and its bearing on mediate contagion. All the evidence indicates that the parasite does not remain infective for long away from the sheep; but it remains so long enough to be carried considerable distances before losing its power, and it must be remembered that we are not yet certain that especially favourable conditions may not appreciably lengthen the period of infectivity. These considerations emphasise the necessity for care and thoroughness in treatment and prophylaxis. Everything we know of sheep scab and its parasite suggests that the disease is eradicable from every civilised country in time; but there are channels by which infection may sometimes pass despite all care. Hence the need, rightly insisted upon at the Irish meeting,

In England and Scotland, where war conditions have caused an increase of scab, that need is especially urgent. An unreliable dip, an insufficient application of even a reliable one, or a premature removal of restrictions, may each lead to further spread of the disease. Accurate knowledge on the the owner that the dog would be very seriously ill part of veterinary inspectors, with extreme vigilance and strictness in its application, are necessary to prevent such mishaps. Given uniform and rigid observance of regulations by all local authorities, with compulsory veterinary superintendence of dipping, it would not be very long before scab would be proved to be eradicable from these islands; but some veterinarians would have heavier responsihas yet cast upon them.

TETANUS IN THE DOG.

I, like Mr, Mason, have never been able to find any record of this affection, but I have experience of one case that came under my own observation. The subject was a three-year-old fox hound which had fractured the second or middle toe of one of the hind legs; the kennel-man had been attending to it but the fracture had not united, and the result was a false joint. I decided to amputate the toe, which I did. In about eight or nine days I noticed that the animal was very stiff in his movements and unable to move his jaws; in trying to walk he would lean against the wall, and stagger and fall; the tail was carried straight out; he would try to suck nourishment through the lips, the jaws remaining firmly fixed. I did not apply any treatment other than attending to the wound. The dog eventually died on the eighth day from the attack. I was under the impression that dogs were immune from the disease, but I know now that they are not.

HENRY BIDLAKE, M.R.C.V.S.

Croydon.

In reply to Mr. Mason's enquiry as to cases of Tetanus in the dog, the following may be of interest.

While I was away for a few days last year, my locum was called one evening to a farm a few miles out to attend a black retriever. It had been in the harvest field and had its tail badly cut with the reaper. As the owner was anxious to save the tail, an attempt was made to hold it in position to heal, by bandages. This was on the evening of September 14th.

When I came home I asked the owner to send for uniformity and thoroughness in repressive the dog to my infirmary, where he duly arrived on the 25th. On dressing the wound one could see there was no chance of a proper union taking place. I amputated the part below the injury, removing about half the tail. This was on the 26th. While operating I noticed the first symptoms of tetanus showing, in a slight stiffness all over, and warned in a few days.

The symptoms developed rapidly. On the 1st of October trismus was acute, the animal walked with difficulty, and the stump of tail felt as if stiff wires ran through it. The eyes were retracted within their sockets, with a tendency to turn upwards, the face wrinkled, giving a most peculiar expression. The breathing, though more rapid, never became bilities in the meantime than this particular disease laboured. The animal never seemed depressed,

always willing to try to feed and drink.

The acute stage lasted about nine days. On the 10th October a slight improvement could be noticed. By the 14th, he could get a fair amount of soft food down, and by the 20th he could feed quite well, only a certain amount of stiffness was discernible. As to treatment: he had a mild aperient pill administered when the first symptoms were seen, and all he had after that was good nursing. He always managed to suck in a certain amount of sloppy food, and small pieces of well-cooked meat pushed in at the sides of his mouth. Though everything was done to cleanse his mouth after feeding, the smell was rather offensive, due to food lying in the mouth. No attempt was made to inject with serum.

He was discharged on the 21st, with the tail wound healed; in fair condition, and in the best of spirits. I have seen him several times since and he looks well.

J. PATON.

Stevenage, Herts.

Last September I was called to see a good specimen of a Collie dog. He was unable to gather with his mouth the pieces of biscuit on which he was fed; he tried hard to do so, but the pieces of biscuit were simply poked along with the nose. We proceeded to examine his mouth, which he then resented. He was brought to the infirmary, placed on a table and hobbled so that an examination could be made. It was found that it was impossible to open his mouth, the jaws being firmly fixed. The owner would have had him destroyed, but being the first case of the kind I had come across, it was decided to allow him to remain as an inpatient. He was fed on a sloppy diet (milk and soups) which, out of a deep vessel, he readily sucked. After about a fortnight of this condition, the jaws relaxed a little so that the tongue could be used for lapping. The improvement very slowly continued for the next four weeks, when he was discharged cured.

No medicines or serums were administered in grammes of chloral hydrate.

Another curious coincident:-The first case, to me, of Tetanus in a heifer (15 months old) occurred last week. This animal had a wound in the foot two or three weeks previous to the attack.

R. A. P.

EYELASHES IN DOMESTICATED ANIMALS

By Henry Gray, M.R.C.V.S., Kensington, W. 8.

Nearly, if not all the text-books dealing with the anatomy and physiology of the domesticated animals are silent upon the absence of eyelashes in given, and one other enema containing 10 grammes lower eyelid of the various domesticated animals. It is true that the horse has a few long vibrissoid hairs or feelers some distance below the lower eyelid, but I do not consider these as the homologue of the true eyelashes as seen in man.

I think the absence of such eyelashes are compensated by the presence of the membrana nictitans,

which in man and the higher apes would be an

anomaly.

The majority of birds, among which are the domesticated poultry, do not possess any eyelashes at all. Why the Amazon parrot has eyelashes but not the grey parrot is beyond my comprehension. The membrana nictitans being so well developed in birds so as to sweep the whole front of the eyeball does away with the necessity for eyelashes.

Distichiasis, so common in certain breeds of dogs, should not be mistaken for the presence of true eyelashes in the lower lid. This term, when applied to the abnormal condition of the lower lid, would be a misnomer, but to that of the upper

eyelid it would be quite correct.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TREATMENT OF TETANUS.

Jeronimo Gargallo, an army veterinary surgeon, has just published a detailed account of a plan of treatment for tetanus, illustrated by the clinical notes of the following case treated in 1913.

The subject, a mule, presented the characteristic symptoms of tetanus, including trismus, which was manifested by great contraction of the masseters and most intense difficulty of mastication. The animal was isolated in a quiet and semi-dark place; gruel alone was given as food, on account of the difficulty in mastication; and the following therapeutic plan was followed.

The first day two hypodermic injections of 20 centigrammes of morphine and the same quantity of pilocarpine hydrochloride were given, one in the morning and the other in the evening. Two enemas of 50 grammes of chloral hydrate were also given, one after each hypodermic injection.

The second day two hypodermic injections of 10 centigrammes of morphine and 15 of pilocarpine hydrochloride were given, and two enemas of 25

The third day the same treatment was followed

as on the second.

On the fourth day, a 50% aqueous solution of magnesium sulphate in boiled filtered water (containing 40 grammes of magnesium sulphate) was injected into the shoulder; and one enema of 15 grammes of chloral hydrate was given. The same treatment was employed on the fifth and sixth days.

On the seventh day, masticatory phenomena appeared, and the general tonic spasms were diminished. On this day the hypodermic injections were totally discontinued. Four enemas, each containing 200 grammes of magnesium sulphate, were of chloral hydrate. The same treatment was repeated on the eighth day.

During these eight days, external applications of turpentine and camphorated alcohol to the masseters, the sides of the neck, and the dorso-lumbar

region, were also utilised.

At the expiration of the eight days, as a satis-

factory improvement and some freedom in the movements were noticed, all medication was discontinued. The mule was then put on to green food for the next fifteen days, during which recovery was slow and progressive. He was then put on ordinary diet, and improved so rapidly that recovery was complete within a month of his entry into the hospital.

Since then the author has only essayed this treatment upon one more case, in which, either because the infection was very generalised or from some other undiscovered circumstances that destroved the effect of the medication, the result was negative. Nevertheless, he thinks that the treatment deserves an ample trial, and intends himself to test it further as opportunities occur.—(Revista de Veterinaria Militar.).

TREATMENT OF ACUTE EQUINE TETANUS BY INTRA-RACHIDIAN INJECTIONS OF ANTI-TETANIC SERUM.

The preventive action of anti-tetanic serum is universally recognised in veterinary medicine; but its curative action in acute tetanus is denied. The experiments of Roux and Bornel have demonstrated the necessity of bringing the serum as early as possible into contact with the cerebro-spinal axis.

Lathomas, having read of the successful treatment of human tetanus by massive intra-rachidian injections of serum, used this method in the following case, which he reported in La Revue Veterinaire Militaire in 1911.

The subject was a horse weighing about 450 kilogrammes (= about 990 lb.) which showed very marked symptoms of acute tetanus. He was anæsthetised by an intra-peritoneal injection of 90 grammes of chloral (= 20 grammes of chloral to each 100 kilogrammes of body-weight). This only caused a sub-anæthesia; which was, however, sufficient to cause voluntary decubitus.

The author then thought of injecting the serum intra-rachidially. Lumbar puncture was carried out according to the technique of Prévot, Brissy, and Barbier. The instruments were previously sterilised; and the region was prepared by shaving and disinfection with tincture of iodine. author, placed behind the horse, sought upon the croup for the medial depression which is bounded anteriorly and posteriorly by the last lumbar and the first sacral vertebræ, and laterally by the internal iliac spines. In this depression he chose the site for the injection exactly at the point of intersection of two lines passing respectively through the axis of the body and through the anterior third of the iliac spines.

The skin was first pierced with a bistoury; and the trocar, held firmly with the palm of the hand, was buried in the median plane of the body, following a very slightly oblique direction from before backwards. The stilette of the trocar was withdrawn, and some 10 c.c. of cephalo-rachidian liquid escaped under a low pressure. When the discharge ceased 70 c.c. of anti-tetanic serum was injected through the canula by means of a small sterilised

taking the weight of the horse into account proportionately with the dose which is injected into the adult man in analogous circumstances. The trocar was withdrawn, and a stitch was placed in the incision made by the bistoury. The horse showed no special symptoms in consequence of the injection.

The next day, all the symptoms had diminished; and, at the end of a month, the horse was in full convalescence.—(Revista de Higiene y Sanidad Veterinaria).

W. R. C.

REPORT OF THE DEPUTATION APPOINTED BY THE VETERINARY MEDICAL ASSOCIATION OF IRELAND AT ITS GENERAL MEETING HELD IN THE GRESHAM HOTEL, DUBLIN, IN JANUARY, 1917, TO WAIT UPON THE DEPARTMENT OF AGRICULTURE AND TECHNICAL INSTRUCTION FOR IRELAND, WITH THE OBJECT OF OBTAINING REDRESS OF THE GRIEVANCES OF THE DEPARTMENTAL VETERINARY INSPECTORS.

On Thursday, June 21st, 1917, the following members of the Deputation:—Messrs. Jordan, Holland, Magee, Mahony, Hamilton, Ewing Johnston, Howard, and the Hon. Secretary, met at the Gresham Hotel, at 2 p.m., and approved a written statement of the case to be laid before the Department, and of the line of action to be taken by the Deputation.

At 3.30 they assembled at the Departmental chambers in Upper Merrion Street, where Mr. Prentice, Chief Inspector of the Veterinary Staff, introduced them to Mr. T. P. Gill, who gave each member of the Deputation a very cordial reception.

The Secretary read the following statement:

"In the first place we desire to express our thanks for the prompt and courteous manner in which the Department has acceded to our request for an interview. We are aware that the Department is exceptionally pressed at the present time with urgent war work, and we appreciate your kindness accordingly in arranging so early to meet us.

This Deputation is representative of the Irish Branch of the National Veterinary Association, The Veterinary Medical Association of Ireland, The North of Ireland Veterinary Association, The Central (Ireland) Veter-inary Association, and the Connaught Veterinary Association. We are also assured of the full sympathy and active support of the National Veterinary Association of the United Kingdom, and of the Royal College of Veterinary Surgeons, which is the governing body of our profession. In other words, we represent the Organised Veterinary Profession.

The object of our visit is to discuss with you the unsatisfactory conditions of service for Veterinary Surgeons in your Veterinary Branch, and we impress upon you the necessity of improving these conditions. This claim is no doubt of primary importance to the Veterinary Inspectors concerned, but it has a wider aspect of affecting the Profession generally, and even the Department as a Patron of Veterinary Education and Guardian of the welfare of live stock in Ireland.

For some years past the conditions of service in your Veterinary Branch have been the subject of complaint in the Veterinary Press and at Veterinary Association meetings. Efforts, we understand, have been made by thé Inspectors concerned on several occasions, asking for improved conditions. These applications were, we are informed, always met with sympathy by the Department, and the fairness of the claims admitted. The through the canula by means of a small sterilised position, however, for some cause or other unfortunately hydrocele syringe. The dose of serum was fixed by

Veterinary organizations have watched the trend of events in this respect with great disappointment, and we feel that the time has now arrived when we should make known that the Veterinary Profession considers the members serving in the Veterinary Branch of the Department of Agriculture are very inadequately paid and are unjustly treated with regard to pension rights.

There is only one Portal entry to our Profession. Members practising in Great Britain and Ireland possess a common qualification. It would require little argument to establish that the Veterinary responsibility is at least as great, if not greater, with the Irish Veter-inary Inspector as with the English Inspector. In recent years, on more than one occasion, your Veterinary Service has promptly restored to normal conditions the cattle trade of Ireland when it was seriously threatened by Foot-and-mouth disease. These unfortunate visitations brought about a very considerable and permanent increase of work to the Veterinary Inspector, who prior to this charge was admittedly badly paid. We do not put forward the present conditions of the Veterinary Service in Great Britain as a standard model, but we must say that we entirely fail to appreciate the discerning justice which pays the Irish Veterinary Inspector at a lower rate this his English confrère, and singles him out for pension terms which are crushing and morally indefensible.

Your Veterinary Staff comprises a substantial percentage of Veterinary Surgeons in Ireland, and the status of the service is quickly reflected upon the Profession generally. Its present unsatisfactory condition has a decided reactionary influence—forcing Veterinary Surgeons of ability to shun the service of the Department, and deterring promising youths from entering the Profession. The Department should be in a position to induce the very best men to take on service, and it is only by offering decent remuneration and fair prospects as to their future that scientific men

can be attracted to the Staff.

We know we are addressing a sympathetic friend, but our mission would be futile if we failed to impress upon the Department the strong feeling of disappointment which exists in the Profession generally on this question, and the determination of our organisations to do everything in their power to secure a change.

For all these reasons we sincerely hope that a satisfactory settlement of these long admitted grievances is

at hand.

Messrs. Jordan, Howard, Hamilton, Holland, Johnston, and Magee spoke in succession, emphasising the claims of the Veterinary Inspectors and the determin-ation of the Veterinary Profession in Ireland and throughout the Kingdom to do everything in its power

to have their grievances redressed.

Mr. Gill, in reply, expressed his pleasure at meeting the Deputation, and spoke of the progress of the Veter-inary Profession and the improvement in its status and of the interest taken in it by the Department, as exem-plified by their taking over the Royal Veterinary College of Ireland and making it a Departmental Institution. He said that the Department admitted the claims of the Veterinary Inspectors, and had endeavoured to secure for them increased salaries and improved conditions of service. In short, Mr. Gill received the Deputation most sympathetically and promised to do all in his power to have its objects attained. He intimated that the Department were at present in communication with the Treasury Authorities on the

Mr. Johnston having thanked Mr. Gill for the kind and sympathetic manner in which he received them, the members of the Deputation withdrew.

THE VETERINARY MEDICAL ASSOCIATION OF IRELAND.

> (NATIONAL V.M.A.—IRISII BRANCH). (Concluded from p. 46.)

OBSERVATIONS ON SHEEP SCAB-DISCUSSION.

Prof. Craig: I welcome the appearance of a paper for discussion on a Scheduled disease. Very seldom has any of the diseases dealt with under the Diseases of Animals Act been discussed in this Society: I only remember one meeting during the last fourteen years at which some observations were made in connection with glanders.

Sheep scab is a disease which entails considerable loss upon the owners of infected flocks and which, on account of the regulations in force, interferes to a great extent with the sheep trade of the country; it is thus of special importance in such an agricultural country as

Ireland.

Mr. Cushnahan has prepared an exceedingly interesting paper which is of great value to those who have frequently to carry out the inspection of sheep. It shows evidence of careful clinical study of the subject. With much that he has said I am in entire agreement. There are some points, of course, in looking over the paper which need amplification, and upon which one may ask some questions to bring out fresh experience.

I notice in the paper that Mr. Cushnahan mentions the three forms of mange in sheep-sarcoptic, psoroptic, and symbiotic. Sarcoptic mange appears to be uncommon; it is said to have been met with mostly in black faced sheep. I wonder if Mr. Cushnahan has observed any cases of it in Irish sheep?

In connection with the symptoms the only point I would raise has reference to the appearance of the recent Mr. Cushnahan describes the colour of the recent spots as being silvery grey: I have noticed that between and under the greyish scales there is present a quantity of yellow, waxlike material closely adherent to the skin and base of the wool fibres in which, as a rule,

the parasites are easily found.

Now as to the diagnosis—one would first remark that without the presence of the Psoroptes ovis sheep scab cannot be set up, and that with the discovery of the parasite in a suspected case all doubt is set at rest. Mr. Cushnahan observes that if wool or scrapings be selected from the proper place, and if the case be one of scab, we should nave no difficulty in finding acari. With that observation I entirely agree. In many samples of wool sent up for examination I have often the greatest difficulty in finding sheep scab parasites-for the simple reason that the material is not taken in the proper way, or from the proper place. I have brought with me three samples of material in which sheep scab parasites are numerous: I thought it might add to the interest of the discussion to produce them for the inspection of the members present. You will notice in these samples that the wool fibres are not much altered, but at their bases they are matted together by a solid yellow waxlike material. The patches from which they came were comparatively recent. In one of them the material has become rather hard and brittle. In this the parasites are easily found. This is what should be removed for examination. It is of no use to clip off the outer portion of tufts of wool and send them up for examination, or take scrapings from the old lesions where there is considerable thickening of the skin or where the skin has become parchment-like. No doubt in the latter one may find an occasional Psoropt, but often only after a

prolonged search. The difficulties of examination for the Psoroptes ovis will be largely overcome if attention is paid to these points, and in the large majority of cases the parasites will be found without great difficulty.

I have here a few slides presenting some parasites of sheep scab to contrast them with two others that have to be distinguished as setting up irritation in the skin of sheep. One of the latter is the sheep louse (Tricho-dectes spharocephalus). You will notice that it is a comparatively small parasite: often it has to be carefully looked for deep down in the wool or on the skin before it can be discovered. It is not very frequent, but it causes as serious trouble, in some cases even more serious effects, in sheep than sheep scab. Here also is a specimen of the wool from such a case in which the little yellowish scales from the skin are scattered through the fibres more loosely than in sheep scab.

Another of the parasites which I present for your

inspection is the harvest bug: an orange-red mite with a hairy body and three pairs of long legs ending in claws, the larva of the Trombidium holosericum. This parasite appears in the autumn, and when it attacks sheep causes very severe itching. It is noted particularly on the head, limbs, and under aspect of the body. I would ask Mr. Cushnahan if he has met with many

cases of this kind.

The sheep ked is a very common parasite, but it does not set up a very severe pruritus. It is so large that there is no difficulty in finding it, and the slight symptoms it causes are not likely to be mistaken for those of

sheep scab.

Mr. Cushnahan has noted the results of the action of too strong a dip upon the skin. I have here a specimen of the kind. You will notice that it consists of a small, black, hard patch of the entire thickness of the skin, which has become detached together with the unaltered wool fibres. This condition should not give serious

trouble in differential diagnosis.

I was much interested in the cases of pruritus where there were no lesions, which Mr. Cushnahan describes as "nibblers." Apparently these are cases in which the

cause of the itching cannot be ascertained.

As to the propagation and dissemination of sheep scab, there can be no doubt that, as Mr. Cushnahan remarks, it is the scabby sheep which is the chief source of the spread of the disease. The sheep scab parasite lives close to the skin. It is chiefly as the result of rubbing and detachment of the wool from the diseased patches that the parasites come to the surface of the body. Hence rubbing posts or the like would be a common means by which the disease is transferred.

The parasites only remain infective for a few days after they have left the body of an infected sheep. Various experimental observations have been made on this point. Stockman, Shilston and Bedford have not been able to cause infection in sheep by their introduc-tion to infected pens or kraals when these had been left vacant for a period longer than eight or nine days. Stockman has, however, infected sheep with tufts of wool which had been removed from infected animals and stored for a period of 12 or 14 days. This is a curious result in view of the fact that psoroptes can be kept alive up to 15 or 20 days; I have seen them live for 24 days. Stockman made one observation in which the psoroptes lived for 30 days. Eggs do not survive long—not more than eight days—and the most tena-cious of life are the ovigerous females.

It has been said that manure is more likely to carry the infection than anything else, but there is no evidence in support of the contention. Shilston made an experiment of this nature. He allowed some scabby sheep to remain in a kraal for 16 days. He then had the manure collected from the kraal to a clean one and introduced into the latter healthy sheep. These sheep

and some more healthy animals were put into this kraal. These remained unaffected. Evidently all the parasites were taken up by the first lot, or those that had been left had died off. That experiment only proves that the manure may carry infection, it does not indicate that the parasites live long in the manure.

It might be suggested in connexion with the experiments performed to show the longevity of the psoroples off the host that there are conditions outside—natural conditions, which cannot be simulated in experiments, but under which the parasite may live for a very long time. It might also be contended that the experiments are too few to admit of drawing definite conclusions. To my mind it appears that all the evidence, experimental and clinical, points to the conclusion that infec-tion is maintained for a short time only if the infected sheep are properly dealt with.

Mr. Cushnahan refers to some of the vagaries of the disease, which are of great interest but difficult to explain. He notes the observation of Stockman that acari may be present in considerable numbers in healthy lambs which are following infected ewes, and yet these lambs do not show any symptoms for months. One wonders what is the reason for that. Possibly it is connected with some peculiarity of the tissues or nervous

system at that age.

Another point that is sometimes noted is this-that after a time sheep scab may remain apparently stationary in a flock or recovery take place without treatment. The observations and careful experiments of Shilston go far to explain some of these cases. He showed that the parasites may disappear altogether from sheep with an abundance of yolk in their fleece, and that the propagation of the psoroptes is influenced by the weather, in dry weather the ovigerous females cease to lay, or lay only a small number of eggs, and may die off.

Mr. Cushnahan refers to an outbreak in young sheep in which the lesions appeared on the tails. It is well known that when sheep scab recurs after treatment it usually begins about the head or tail. This is no doubt due to the persistence of living acari at one or other of their stages in these positions and the failure of the dip to penetrate into the recesses in these situations. I would like to know in this case if he definitely ascertained whether the flock had previously been affected

with sheep scab.

I will now allude to an important point raised by Henry in a paper on "Otac riasis and Prophylaxis of Psoroptic Mange," recently read before the Central Veterinary Society in Paris. He points out that in certain species of animals, e.g., in rabbits and goats, mange due to psoroptes is confined to the inner side of the ears. He made some investigations into the occurrence of psoroptes in the ears of animals which were commonly the subject of body mange due to these parasites. He found psoroptes in the ears of a large proportion of military horses in certain veterinary hospitals, although very few were affected with mange over the body.

Among 32 sheep which had been seized on account of emaciation he found psoroptes in the ears of 15, although none of these sheep showed any evidence of sheep scab. The conclusions which he draws from his observations is that in the majority of species the ears are the favourite breeding ground for psoroptes, from which they emerge at times to attack the body. That you will admit has a very important bearing on treatment, if it applies to sheep scab. To obtain some evidence on the question I have examined material from the ears of some 62 sheep: 19 of these were slaughtered in prime condition in the Dublin abattoir, and showed no evidence of sheep scab. In none of these did I find any psoroptes. Among the remaining 13, which were involved in an outbreak in the province of our friend, Capt. Reavy, I found psoroptes in the ears of three; became infected. These were removed after five days two of these were not very severely affected with sheep

scab, in the third the disease was not at such an advanced stage. These observations do not support the contention of Henry that the ear is a favourite site for psoroptes in sheep. They do, however, emphasise the importance during dipping of ensuring that the dip comes in contact with the head and ears. In some cases we know that dipping is carried out in a rather perfunctory fashion and that many of the sheep never have their heads immersed. Henry, in his communication, recommends that a warm 2 % emulsion of cresyl be poured into the ears, and he asserts that it kills the

parasites almost instantaneously.

Last of all, with regard to the dipping itself, great care should be taken that the dip used is a reliable one. Many forms of dips are used, and most of them are proprietary dips. One of the most efficient is a lime and sulphur dip which is said to have been used largely in Australia. This dip requires to be carefully made; attempts have been made to standardise it, but the chief difficulty appears to be the quantity of lime used in its preparation. The irritating results which have been noted at times depends on the presence of an excess of calcium content. In the experiments made in South Africa this dip would appear to have been the most effective in destroying the eggs of the acari.

There can be no doubt that dipping, to be of service in the eradication of sheep scab, must be thorough in its

application, and that the dip must penetrate the wool and scales. It must be applied all over the body, head, ears and tail, so as to ensure the destruction of all the parasites. Each sheep must be immersed for at least two minutes, and the head ducked under twice in that time. Certainly the dip will penetrate much better if the fleece is removed, and in very old-standing cases, if the affected areas have first been scraped or softened with some soapy solution. To my mind it should be regarded as a routine practice in dipping to pour a little of the dip into the inner side of the ears, to make certain that any psoroptes which may be present there will be

The life history of the parasites makes it quite evident that for the proper cure of sheep scab at least two dippings are necessary at an interval of not longer than eight days. Some of the parasites either as eggs or ovigerous females may have escaped destruction at the first dipping. The object of the second dipping is to destroy these parasites before they are able to breed further generations of acari. Up to a little time ago it was taken that the life cycle of the Psoroptes ovis was passed in a period of 15 to 23 days. According to the very careful experiments of Shilston and Bedford in South Africa the life cycle may be completed in nine days after the eggs are hatched out. This may be affected by climatic conditions. In addition, it was also noted that the number of eggs laid was much greater than was formerly supposed, up to 90 or more eggs in the course of about a month. It is only by the efficient dipping of sheep that sheep scab can be kept under control or got rid of—as has been done in some of the Colonies. By that means only will the difficulties which arise at the ports be lessened or got rid of.

After all has been said in connexion with the examination of animals for sheep scab, there are certain cases that will escape detection for a time, especially those in the early stages where the animal has been treated previously. This has been noticed in some cases in Irish sheep sent to England, and it has also been been observed in Scotch sheep sent across the Border. Quite a number of outbreaks of sheep scab in England are of Scotch

origin.

The President: About three times as many as have

been traced to Irish sheep.
Prof. Craig: In 1915, 71 outbreaks of sheep scab in

sheep are subject to two inspections—one on this side, the second on the other side of the Channel; and in the returns of the Board of Agriculture for 1915, 169 sheep landing in England from Ireland were found at the ports to be affected with sheep scab, and were prevented from spreading the disease in that country. These troubles would cease if the disease was properly attacked at its source. The regulations laid down appear to be efficient for the purpose if they were properly carried out or enforced. There seems to be a want of uniformity in the carrying out of the Orders, and it is a great pity that some of the people interested in the sheep trade are so short sighted as not to see that it is to their own interest that the regulations in connexion with sheep scab should be conformed to, not only in form but also in spirit. If these were enforced uniformly throughout the country, sheep scab would become materially reduced in its prevalence, and indeed there is no reason at all why it should not be eradicated altogether.

Mr. DUNLOP: It is eradicated in Australia.

Prof. CRAIG: Yes; in Australia and New Zealand. To ensure efficiency in the dipping of sheep, thorough inspection should be carried out by qualified men appointed for the purpose, by all—not some—of the authorities throughout the country. These inspectors

should see to it that the dips recommended are used in the proper strength, and that the dipping is thorough;

and not done in the perfunctory manner it appears to be in some parts of the country.

Mr. Prentice: I did not intend to join in the discussion. Mr. Cushnahan's paper and certainly the criticisms and remarks generally of Professor Craig have covered a good deal of ground, but I see around me some of the gentlemen who are Veterinary Iuspectors to Local Authorities under the Diseases of Animals Acts and they doubtless are considerably interested in this matter. On the question of insufficient dipping, I would not like anyone to go away with the idea that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect that all the sheep in the country are only perfect to the country are only perfect that all the sheep in the country are only perfect that all the functorily dipped; that is not so. There are no doubt too many instances wherein the dipping may not be done in as thorough a manner as it ought to be, but I know that there are some local bodies in the country who take a deep interest in the dipping of sheep in their districts. Even in some cases they require their veter-inary surgeons to superintend the dipping. On the other hand it is found that other local bodies do this

work in a rather perfunctory manner.

In the ordinary course of events, so far as the Department's Orders are concerned, diagnosis of sheep scab is left to the veterinary surgeons who are Veterinary Inspectors to Local Authorities. Taking them all round, these officers do this work well, but it is essential that in all cases the inspectors should go as thoroughly into the matter as possible. I am not here to attempt to discredit local veterinary inspectors in any way. It is far from my thoughts, but I would like to emphasise the fact that great care is necessary on the part of the inspectors when this disease is reported before they de-

clare that scab does, or does not exist.

Another matter which I would like to mention is the thorough examination sheep should undergo when veterinary inspectors are about to declare that the disease no longer exists among the flock. I am happy to say that instances of error in this respect are not found to occur frequently, but it is easy to see the harm which may be done if restrictions are prematurely withdrawn and movement of sheep allowed. It is, of course, possible for sheep to become re-infected notwithstanding that no appearance of active disease was observable at the time they were examined by the inspector, but it behoves us of the veterinary profession not to treat matters of this kind lightly but to use to the best advantage the England were traced to Scotch sheep, five to Irish sheep. powers we possess in endeavouring to discover the ex-But, of course, it has to be remembered that Irish istence or otherwise of scab amongst the flocks of the

country, and when discovered, to exert all our energies to eradicate it. Unless we do so, it is clear that mis-understandings will arise from our actions.

Professor Craig has referred to the question of this disease amongst Irish sheep as discovered on the other side of the Channel. I think that in the majority of cases where the disease has been so discovered the lesions have mostly been comparatively small, and commonly situated on the tails of lambs or the docked tails of sheep. Of course, scab lesions have been discovered in this country situated on the tails of sheep, and therefore I do not intend to convey that it is only in Great Britain the lesions so located are found.

On the general question of dipping, the Regulations in force in Ireland require three dippings in the year. The first is a single dipping during the summer period, the next two (a double dipping) in the autumn period. The object of the double dipping within the prescribed time can well be understood by a meeting such as this, but some local authorities in the country and some sheep owners object to it. They do not seem to appreciate

I congratulate Mr. Cushnahan on his able paper. I know he has taken some trouble to write it, and I am sure the meeting generally will appreciate his effort.

(Applause).
Mr. P. J. Howard: Mr. Cushnahan no doubt has brought forward a subject not only of importance to the veterinary profession, but to the country also. This question of sheep scab has from time to time caused more than a flutter among our stockowners in this country. I was rather delighted when I heard from Prof. Craig that Irish sheep are not responsible for all

scab.

In the diagnosis of sheep scab, though one has to get into the way of doing it you cannot very well describe how you get to know, I don't think it would be entirely within the region of possibility for any man to diagnose sheep scab in every case when it was just a couple of days in existence. One could imagine a sheep getting affected yesterday at a fair, and being inspected the next day at the Port of Dublin, and it would be a physical impossibility, no matter how acute the examination, to discover the disease. That is the only way we can account for mistakes from time to time, and they are impossible to avoid. Like every well-known contagious infection that is in existence for a couple of days, it is always easy enough to make certain of a diagnosis because you very likely are not confined to a single case. Even if you had a couple of professors and ordinary practitioners and they were called in to see one hundred sheep, and if there was just one case it would be very hard for them to decide, because even with the microscope you may not get a psoropt. My idea about sheep scab is that nine times out of ten if you keep sheep under observation for ten minutes you will see them nibbling. Then, when you examine each animal pretty closely and when you find the part affected, there won't be much mistake left when you touch it. There is a toughness about the skin different from that of other parts. You may get sheep scab anywhere, and it is not confined to any one place.

I'm afraid Mr. Cushnahan has probably left out what I consider the most important item in the treatment of the outbreak. Mr. Cushnahan will forgive me when I say that I arrived at the conclusion that he was probably only conversant with diagnosis and detection, and that possibly he has not had to deal much with the cradication possibly he has not had to deal much with the cradication of scab, particularly in a big farm where you may have 100 sheep to deal with. When you get scab allowed to run for a month or two before you hear anything about it, and then you come to deal with it, the first and most necessary item is to have them clipped—and you are absolutely safe to do it any time of the year. Dipping the Order.

sheep already affected with scab with the wool on is a typical form of nonsense. The only effective way is to clip them. If they are badly affected with scab you will find that they will thrive after being clipped, because their first dipping will have such an effect that it will relieve the irritation. In bad weather they may require

refleve the initiation. In sad weather they may require extra feeding, but that is all.

This past winter I had to deal with a fold of 120 sheep. They were all clipped, and not one of them was lost. One of the points I would like to hear discussed is how long does it really take before one is certain that you would have a cure effected? What really ought to be the probable time in which one would be safe in removing those restrictions? In a case I was dealing with some time ago I kept them for three months, and I was asked to give an explanation as to how it was the disease was so long in existence. I was not able to give any explanation, but certainly I was not satisfied that the disease was eradicated, and I kept the sheep there until I was sure it was.

I would like to know is it likely that the eggs will be the reason why it should be done, and regard it as quite longer able to reproduce the disease, say, than the unnecessary.

work in providing this paper for the Association.

Capt. Reavy: There are one or two points I am anxious for information on. How do you account for an outbreak of scab on a farm or mountain say four to six months after any fresh sheep have been placed there? I have before my mind two farms, one in Fermanagh and one in Donegal, both good land; they had an outbreak of sheep scab. They moved all the sheep, and eighteen months after re-stocked it with fresh sheep. Four months after re-stocking they had an outbreak of sheep scab. The same thing occurred in Donegal, some months after they were stocked. These were farms well

fenced and no danger of trespass.

I think, with reference to the eradication and prevention of the disease, that the fault is not with the big sheep farmer or dealer; it is with the small man who keeps a few sheep. He does not bother much about them. My experience is that a sheep farmer is most anxious to keep his flock clean, and there is a great improvement in that respect in Donegal. In Donegal there are very large sheep farms. Sheep are imported from Scotland every year and they do well. I have invariably noticed that there is an interval of three or four months after these sheep come there before there is an outbreak of scab. Mr. Prentice mentions that it behoves the profession to do its utmost to stamp out the disease. Now we local inspectors who are not blessed with a big practice, and very often the salary given the inspector is barely sufficient to pay the expenses of locomotion, how can you expect them to devote much time to the Sheep Scab Order? It should, I think, be compulsory that the veterinary inspector should be present to see the dipping done, and the inspectors should be paid by the department for this work. To my mind this would ensure that the flocks were properly dipped.

Mr. PRENTICE: With regard to outbreaks of scab there is a provision in the Order which says that the dipping of sheep is to be done in the presence of the inspector. If you serve the farmer with a notice and he is not there with his dipping and all ready he is liable to

Capt. REAVY: I think it is within your recollection that something like that occurred in a case I had, and the fine was three shillings, and the County Council made an order that the inspector should attend and give a certificate. It would undoubtedly be a great boon to Ireland if sheep scab was eradicated, and in no part of Ireland would it be a greater boon than in the Co. Donegal. So far as Donegal County Council is concerned, they give every facility for the carrying out of

Prof. O'Connor: I would like to congratulate Mr. Cushnahan on his very able paper. Several people have made remarks upon it at considerable length, and yet I don't think we learned anything new that was not mentioned by Mr. Cushnahan in his paper. I am very glad indeed that he has come forward with this very interesting subject for our meeting.

Mr. John Holland: I also desire to congratulate

Mr. Cushnahan. I do not think that there is any danger in immersing the head of sheep. They instinctively close the mouth, and I always see that the head

is immersed in the dip.
Mr. J. B. Dunlop: Being connected more or less with sheep farming I naturally take a deep interest in sheep scab, and I have to congratulate Mr. Cushnahan on the excellence of his paper. He has gone into the subject in a thorough and practical manner. So far as I know his opinions are sound and the value of the paper is enhanced by the fact that it is the outcome of careful and

long continued observations.

I am sure it is rather risky dipping sheep when weather conditions are cold and wet, but the risk of packing sheep closely together in a confined space is much greater. It is surprising how well sheep stand cold weather after clipping, especially if the weather be dry. We always dip sheep after shearing; and only that owners would object, all suspected and contact cases should be clipped before dipping. The head should always be momentarily dipped, but it would be dangerous to keep the head under the dip as the animal would inhale, as it were, the poisonous liquid. I do not think the eyes would suffer much. It is rather remarkable that symbiotic mange is usually confined to the limbs and that human scabies never affects the face. In a suspected case it is not well to rely on the fact that the animal does not evince pleasure when being handled. We may readily fail to "touch the spot." In all cases of eczema or pruritus the itching is increased, for the time being, by hot applications, and in warm weather. I have an idea that effective infection may be delayed for a length of time in consequence of an abundant and healthy secretion of the yolk or lanolin.

The PRESIDENT: With regard to the question of diagnosis, I take it that Mr. Cushnahan, as a practical man with experience, relies chiefly on clinical evidence and not on microscopic. With that I thoroughly agree. I think when one has had a fair share of practical experience one is pretty confident in giving an opinion without the aid of the microscope. For microscopical examination the only material of value is scrapings from an active lesion which will reveal living acari. The process of searching old crusts for dead acari is obviously of little value, especially if the lesion had been treated. The results obtained from such an examination, even if they are of a positive character are always difficult to interpret. The diagnosis of the disease in its earliest stages requires very careful and prolonged examination, it is quite easy, even with an average examination, to miss a small budding lesion. The practitioner engaged in sheep scab work should always keep before him the long period which elapses between infection and well-marked symptoms.

If one is called upon to examine a flock to which suspicion is attached owing to contact or association with a diseased flock, one is generally safer to not give a dogmatic opinion as to freedom from disease on the clinical appearance alone, indeed such an opinion is no guarantee that the animals are not latently infected, and is analogous to a single negative tuberculin test for animals from a tuberculous herd. In such cases where suspicion of contact is well founded the proper course is to have the sheep dipped twice with an interval

may reveal an active spot. It is, however, always safe to have such animals and in-contacts dipped twice to

settle any doubt.

Another point in diagnosis well worth bearing in mind is the seasonal tendency of the disease. It is prevalent in autumn and winter and dies away in spring and summer. Apparent spontaneous recovery has been noted with the approach of spring. The acari in such circumstances disappear from the lesions but may be found in the tail, in the inguinal flexures, and the ears, where they apparently live a symbiotic life for a time. There are other parasites which cause symptoms that might be mistaken for scab. Mr. Cushnahan has pointed out most of them. The harvest bug does not seem to trouble us much in this country. Keds and ticks do not cause serious symptoms as a rule, but lice are often responsible for intense itching and great loss of wool. The chief point about "maggots" is to remember that scab may co exist in the same animal. The point which Mr. Cushnahan raises about poor land and good land has, I think, little bearing on the progress of the disease. It is more a question of time of infection and time of inspection. The question of sheep scab eradication is very important, and one which to be successful requires the application of highly organised methods. The chief point is, of course, to have all the sheep in a given area dipped twice at stated times, in accordance with our knowledge of the life history of the parasite. The strength of bath, the manner and period of immersion are also essential points.

In conclusion, I would like to say how greatly I appreciate the research work of Stockman, Berry, Shilston and Bedford on this subject. I thank Prof. Craig for exhibiting the specimens and for his contributions to the discussion, especially that part dealing with the location of acari in the ears. To Mr. Cushnahan I offer my warmest thanks for his interesting paper.

REPLY.

Mr. CUSHNAHAN: I wish to thank you for the manner in which you have received my paper. Our Secretary being in a hurry to have it to put in the printer's hands, I had to content myself with making it as brief as possible, at the same time attempting to cover all the ground in connection with the subject for a meeting of this kind. I am aware that some parts of it were too briefly touched upon, but I feel satisfied if nothing of importance were omitted; the discussion made the necessary enlargement on my brevity.

Prof. Craig, to whom I am indebted for bringing forward specimens and elaborating on the paper, wished to know if I have met with sarcoptic scab in Ireland. I have not, and I think I am safe in saying there are few who have met with it in this country. I remember seeing sarcoptic lesions in Edinburgh some years ago.

I should repeat that my observations in the paper were confined to Psoroptic scab.

As to the colour of the lesion, I have described it as met with on the sheep. If the wool be parted the superficial part of the lesion is distinctly grey in colour; this becoming more dull and dirty in appearance as the lesion becomes older. If the deeper part be examined by plucking out the wool the yellowish colour and

glutinous character will be noticed.

Reference was made to some practioners being care-less in their diagnosis, and also in the matter of withdrawal of restrictions. I cannot say I have observed that carelessness. As a fact I have in many instances examined after an outbreak of sheep scab, sheep which local inspectors have certified as free from disease. I have found on examination some of these sheep affected with scab. The lesions I found were recent, apparently of nine or ten days between dippings. Chronic cases with old lesions sometimes cause doubt as to whether the disease is alive or not, but a careful examination failed to find any trace of scab in the first instance.

I quite agree with our President, that we should have suspicion of a lesion and not rely too much on the finding of dead acari. However, if dead acari are found a very strict examination might reveal a small recent lesion, and it would be time well spent in having an examination made at a later period.

I am glad to know that Mr. Howard, who has such a

large practical experience of the disease, has also on handling a lesion noticed that peculiar touch which I have mentioned, and which neither of us can very well

describe on paper.
Our President's remarks regarding latent cases and quiescence of parasites are very interesting. They should satisfy Capt. Reavy and Mr. Holland regarding those cases occurring on what I might term "virgin farms." Birds have been mentioned as carriers. Shilston, in his experiments with goats and rabbits, did not meet with success in transferring the disease. We so far have no conclusive proof of mediate contagion. The President's remarks go a long way to explain tail lesions in sheep, but I am not satisfied that they fully explain the lesions on the tails of lambs. For my part I think the parasites show a predilection for these parts on lambs, probably on account of excretions and secretions. In mentioning tail cases in lambs, the lesions in many instances are not diffuse as in older sheep; they do not tend to coalesce. I may state that I noticed in an outbreak of sheep scab in lambs, lesions throughout the body which did not coalesce, but remained as small lesions studded over the skin, and no larger than a threepenny piece in size. An idea prevails among some that these tail lesions would eventually disappear without treatment. I cannot agree to this. Regarding what has been said about sheep apparently free from disease being sent to rich pasture; it would appear to the same of me that as the animals improve in condition the parasites awake, as it were, from their torpor, become active and disease producing.

Mr. Prentice referred to the fact that all sheep were not perfunctorily dipped. I am glad to say regarding this laxity on the part of sheep owners that it only refers to a small minority, but it helps to perpetuate

the disease.

Mr. Howard reproved me for omitting a very important item in the treatment-clipping the animals. I wish to say the omission was made consciously. I hadn't the courage to mention it in my paper lest I might be abused for doing so. There are too many obtstacles in the way—season of the year, consent of owners, etc. However, I am quite in agreement with him that where it can be done the sheep should be shorn before treatment is applied. In fact, when dealing officially with cases, if the shearing season be at hand I usually suggest deferring the dipping until the animals are shorn. His suggestion that sheep arriving in Ireland from Great Britain, and vice versa, should be dipped on arrival is a very excellent one. Of course, I presume he refers to store sheep. I would suggest also a second dipping in

From what we now know of ear-contagion, swabbing out the ears with a parasiticide should be done at the time of dipping. The ears harbouring parasites is a source of contagion which should not be forgotten. As I have already mentioned, mountain sheep are, and I am afraid will be, a cause of trouble and contamination.

Mr. Holland refers to the life of the acarus and

[The President: These recent lesions also apply to those cases found at English ports after examination on this side. They appear to develope in the interval.]

disease. Animals did not contract the disease when experimentally placed in infected pens from which diseased animals had been removed eight days earlier. Referring to the life-cycle, Shilston and Bedford, workat a high and a low altitude in South Africa, practically had the same results. Their researches seem to place beyond doubt that the life-cycle of the parasite may be completed about the ninth day; this is some days earlier than the old accepted classical experiments, which put the time at 12 to 16 days. We at this meeting should accept, until we have further evidence to the contrary, that the experiments in South Africa go to show that the interval between dippings should not be longer than ten days if a radical cure is hoped for. (Hear, hear).

I have again to express my thanks to the meeting for the cordial reception of the paper, and to thank particularly those members who contributed to the dis-

cussion.

On the proposition of Capt. Reavy, seconded by Mr. Dunlop, a vote of thanks was passed to Mr. Cushnahan for his paper.

J. J. O'CONNOR, Hon. Sec.

Charge of cruelty to a dog at Bournemouth-dismissed.

At the Bournemouth Police Court, on July 27, before Capt. G. R. Elwes (in the chair), Dr. H. M. Hirons, Mr. C. Frampton, Councillor C. George, Mr. W. Haydon, and Mr. W. H. Duell, Henry Tate was summoned for cruelty to a dog, between June 3rd and 28th. Mr. C. Hiscock, Southampton, prosecuted; Mr. A. J. Lawman

defended.!

Mr. Hiscock said the allegation against the defendant was that he, being entrusted with the care and keep of a dog, caused it unnecessary suffering by omitting to give it proper care and attention. The dog, a cross-bred Airedale, belonged to Mrs. Violet Fairfax, of South-ampton, and the defendant was Capt. Tate. A postmortem showed that the dog died of muco-enteritis, or inflammation of the light of the interior. inflammation of the lining of the intestines, and Mr. Hiscock suggested that this was due to neglect. The dog was under the care of defendant at a canine infirmary and kennels, at 11 Lincoln Avenue, Holdenhurst Road, Bournemouth.

Mrs. Violet Fairfax, The Avenue, Southampton, said, in 1916, at the request of the owner she placed the dog at Maynard's establishment, at Lincoln Avenue, at a charge of 7s. 6d. a week. She saw the dog on different occasions when in Bournemouth. In September she noticed that it was thin, which led her to complain to the attendant. She did not see dog again until June. The accounts for the keep of the dog had been paid. In April the account was rendered by Capt. H. W. Tate. She had received no notification of change of ownership in the kennels. She saw the dog every day in June, when it was very emaciated and weak. It suffered also from derangement of the bowels. One evening she noticed that the morning feed had not been touched. She took out the dog on several occasions, but was never told it was unfit to go out. On June 24 she asked to see Mr. Tate, and saw him on the 28th, when the dog appeared to be in about the same condition. She spoke to defendant about the matter, but Tate replied that nothing was the matter with the dog, which he had examined on the previous Tuesday. He said he had had witality of eggs. Apart from the host, it has been shown that eggs lose their vitality after eight or ten days. In the case of acari the experiments have shown that they may live for a month, or a few days longer. After a month they have almost lost their activity. At the end of fourteen days, however, they did not produce the days to solution the previous I testady. He said he had had another dog there a long time, which had showed simple the case of acari the experiments have shown that they may live for a month, or a few days longer. After a month they have almost lost their activity. At the end of fourteen days, however, they did not produce the

emaciated condition, being unable to retain its food. She afterwards consulted a veterinary surgeon. The dog, which showed signs of being in distress and pain, was destroyed on July 17, and defendant was given an opportunity of attending the post-mortem examination. She had seen, at the defendant's premises, the name Captain H. W. Tate as the principal of the kennels.

Cross-examined: The dog was not vicious, and no mention was made to her of the dog having been ill.

She was surprised to hear that the dog had received a special diet, and that it was untrustworthy. No account was sent to her for the special diet, and witness said no intimation whatever was given by defendant that the dog had been ill or ailing until the post-mortem examination. The dog was about eight years of age, and was

quite well when placed in defendant's care.

John B. Tutt, F.R.C.V S., of Winchester, said on July 5 he saw the dog in a very emaciated condition. Its normal weight should be about 60 lb. From its history he came to the conclusion that it was suffering from gastric catarrh: it was unable to eat its food. It was sent to an Infirmary at Southampton, and was destroyed on July 17. The post-mortem examination showed that the dog had muco-enteritis of a chronic nature and of long standing. The disease might be produced by a chill, improper feeding, or microbia. In his opinion the dog had not been properly fed. The disease could easily have been detected, and early treatment was usually successful. Unnecessary suffering had been caused by keeping the dog in the condition described.

William Augustus Dellagana, F.R.C.V.S., Southampton, spoke as to the dog's emaciated condition. It was a hopeless case and they ordered it to be destroyed. The dog had suffered from the complaint-muco enteritisfor some months, and could not have been properly treated. In its early stages the disease could have been arrested. The owner of the dog ought to have been notified of its condition. Some of the diet prescribed was unsuitable for an animal in the condition

described.

THE DEFENCE.

Mr. Lawman said the defendant was an assistant to a veterinary surgeon who supervised horses. He had served in the Boer War as veterinary surgeon, and in the present war he was a farriery-major in the French Army and received the Croix de Guerre and the Legion of Honour. Mrs. Maynard and her husband had carried on the kennels for 16 years. Every possible care had been given to the dog, which had been treated better

than children or wounded soldiers.

Capt. Henry Tate, the defendant, said he received his military decorations for service at the battle of the Marne, as a veterinary captain. The dog kept well until about May. It was received in a run-down condition, but afterwards got well. In May it developed anemia, and witness treated it with nourishing diet and tonics, including eggs and brandy. The dog was vicious, and had been exercised about eight hours a day by itself. Every care was given to the dog, which had been ailing ever since its arrival. It was thin, but not emaciated. Its condition varied from week to week. His treatment of the dog was interfered with.

Cross-examined, he was of British nationality, and received his rank of captain in the French Army. He came to Bournemouth in March. He was not a veterinary surgeon, but had qualifications not recognised in England. He was a canine specialist. He was the principal of the business and accepted responsibility. He did not inform the owner of the condition of the dog because he thought it unnecessary, as the dog had pulled through on previous occasions. The illness in May was not serious. The average weight of such a dog as this was 45lb. He denied that the dog was ation, won by R. W. M. Mettam.

emaciated, and said the condition was never sufficiently serious to warrant a veterinary surgeon being called in. The dog had no symptoms of muco-enteritis; and witness suggested that the complaint was contracted after the dog left the kennels. The dog left him quite well.

but was a little thin from anamia.

Mrs. Elizabeth Ainsworth Southhouse, of The Kennels, Lincoln Avenue, said she had been a kennel attendant for 16 years, and was previously a nurse. In January, 1916, Mrs. Fairfax brought the dog, which was in a normal condition. In the autumn of 1916 it was treated for debility. Mr. Tate took over the management in the early part of this year. In May the dog again suffered from debility, and received the best of everything. The dog received a special diet, and had plenty of exercise. She described the dog as vicious. There was no stinting of food. There were no symptoms of disease, and no occasion arose for calling in a veterinary surgeon. Mrs. Fairfax never mentioned to her that the dog was in an emaciated condition. About a month before the dog left Mrs. Fairfax rang up on the telephone to say the dog would be taken away to be destroyed.

William James Southhouse, who said he had had 16 years' experience at The Kennels, gave similar evidence. This was the first complaint there had been during the

time he had been at The Kennels.

William Allan, of Parkstone, a veterinary surgeon's assistant, said Mrs. Fairfax brought the dog to him and said she feared it had not been properly cared for. He, however, found very little wrong with the dog, which was full of spirits. It was a little thin, and weighed

Harry Wareham said he saw the dog at the kennels in April, May and June, when the animal seemed all

John Henry Philpott, inspector R.S.P.C.A., said he had visited the defendant's premises and found every-thing clean, and the dogs comfortable. He saw the dog in May. It was in poor condition and was being spoon

The Chairman said the evidence was so conflicting that the case would be dismissed .- The Bournemouth

Daily Echo.

ROYAL VETERINARY COLLEGE OF IRELAND

CLASS PRIZE LIST.—Session 1916-1917.

Bursary.-J. Timoney.

Class A—Junior Anatomy—Silver Medal: J. Timoney; Bronze: J. M. Murphy. Biology—Silver: S. A. Evans; Bronze: J. Timoney. Chemistry—Silver: J. Timoney; Bronze: J. M. Murphy. Practical Chemistry-Bronze: J. P. Nowlan.

Class B—Senior Anatomy—Silver: M. W. Henning; Bronze: C. P. Neser. Physiology—Silver: C. P. Neser; Bronze: W. G. Jones. Histology—Bronze: M. W. Stable Management—Silver: A. McLean;

Henning. Stable Ma Bronze: J. J. Lyons.

Class C-Hygiene and Dietetics-Silver: B.S. Parkin;

Class C—Hygiene and Dietetics—Silver: B. S. Parkin;
Bronze: C. A. Ewing. Materia Medica—Silver: C. A.
Ewing; Bronze: B. S. Parkin. Pathology and Bacteriology—Silver: B. S. Parkin; Bronze: T. J. Hurley.
Class D—Surgery—Silver: R. W. M. Mettam; Bronze:
H. O'Neill. Medicine—Silver: R. W. M. Mettam;
Bronze: H. O'Neil. Clinique—Silver: R. W. M. Mettam.
Obstetrics—Bronze: R. W. M. Mettam. Meat Inspection—Bronze: R. W. M. Mettam.
Medal presented by the Veterinary Medical Associa-

Medal presented by the Veterinary Medical Association of Ireland, for the best Final Professional Examin-

CANINE TETANUS.

In reply to the enquiry of Mr. H. E. T. Mason, and your editorial on this disease, I can record a case that came under my care about two months ago.

The patient was a well bred fox terrier puppy about four months old that I had obtained for a lady client, in whose possession it had been about three weeks.

I was requested to attend one Sunday about noon. I found the animal laid in a large clothes basket, and the only sign of movement he gave was to wag his tail and move his eyes. Upon picking him up he came up with a pronounced rigidity of the muscles of the neck and fore limbs; he could stand when propped up, but upon the slightest movement toppled over. He could lap a little milk from a shallow dish if held in such a position that the head had not to be bent down.

I prescribed a Bromide mixture, considering that I had a brain or spine case, probably caused by some unknown accident. I left him to be seen next day, but in the evening he was brought down to me as he had gone much stiffer, and occasionally whimpered. Upon examining him I noticed the ears were drawn back and the face was distorted by the wrinkling of the skin, but to me it was not symptomatic of any particular disease. When held up by one hand under his chest he was to all intents a "pot dog," so rigid were all the muscles. It was this extreme rigidity that drove me to the conclusion that I had here the first case of Tetanus in the dog I had seen during 35 years of rather extensive dog practice. I watched carefully for the usual tetanic symptoms found in the horse, but there were none present.

Thinking the case unique and most interesting I submitted the animal next morning to a fellow practitioner, Mr. H. Thompson, who confirmed my diagnosis. As the puppy was now breathing fast, the mouth could not be opened, and breath had become very feetid, it was

decided to destroy him.

I suppose had not Mr. Mason's enquiry and your editerial on this rare disease in the dog awakened me to record it, the case would not have adorned the insufficient literature on the subject.

Sheffield.

TOM C. FLETCHER.

[This note came to hand too late for inclusion with those in the earlier pages of this number.]

ARMY VETERINARY SERVICE.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, July 26.

REGULAR FORCES. ARMY VETERINARY CORPS.

I.t.-Col. to be actg. Col.:—W. J. Tatam, c.M.G. (June 3).
Major H. M. Lenox-Conyngham, D.S.O., F.R.C.V.S. relinquishes the actg. rank of Col. on ceasing to be empld. as Dep. Dir. of Vety. Servs. (May 19).

July 27. Capt. H. C. Stewart relinquishes the temp. rank of Maj. (Mar. 25).

Temp. Lieuts, to be temp. Capts.:—G. N. Jull, A. H. McLeod, R. H. Lay (July 6); E. G. Robertson, T. Haigh (July 10).

Temp. Capt. W. H. Blanchard relinquishes his commn. on account of ill-health contracted on active service, and is granted hon. rank of Capt. (July 31).

and is granted hon. rank of Capt. (July 31).
Temp. Lt. to be temp. Capt.:—H. T. Hughes, F.R.C.V.S.
(July 11).

Temp. Lieut. R. G. Wilson relinquishes his commission (July 31).

South African Veterinary Corps.

July 31.

The appt. to temporary rank of Capt. J. H. L. Lyons, notified in Gazette, Jan. 2, is cancelled.

The following casualty is reported:—
DIED—Pte. D. Gardiner, 13419 (Upladon, nr. Newent).

Personal.

BRIGHT.—On the 22nd July, 1917, at 17 Palmerston Street, Romsey, to Ellie, wife of Capt. W. F. L. Bright, A.V.C.—a daughter.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

		Anti Out-	hrax Ani-	and-M	ot- Iouth ase.	(incl	derst uding rcy)	Parasitic Mange.	Sheep Scab.	Swine	Fever.
Period.		breaks	mals.	Out- breaks	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks mals.	Out- breaks	Out- breaks,	Slaugh tered.
IRELAND. Week ended J	uly 21	Ī	Ī					Outbreaks	1	3	3
Corresponding Week in	1916 1915 1914	:::			2	:::		3 4 1	8 2 2	13 8 7	52 24 16
Total for 29 weeks, 1917		3	5			1	1	29	236	153	963
Corresponding period in {1	916 915 914	3 1 1	7 1 1 1	 76	957	" i	3	41 44 53	240 262 361	198 154 133	1058 871 687

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 23, 1917

Note —The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:—

John Allan, Castle Douglas	£1	1	0
R. C. Baxter, Downham Market	1	1	0
J. Scott Bowden, Major A.v.c. (1917, 1918)	2	2	0
M. Clarkson, Richmond, Yorks	1	1	0
W. A. Dickinson, Lieut. A.v.c.	1	1	0
S. T. Jackson, Capt. A.v.c.	1	1	0
Previously acknowledged	812	6	0
j	E 819	13	0

Staining of the necrosed parts of a wound.

Professor Delbet recently described to the Society of Surgery a method by which the immediate closing of a wound may be safely effected after excision of the necrosed and infected parts. This method, which is now in frequent use by French Surgeons, is only safe if all necrosed tissue has been entirely removed. To make this readily possible a colouring ageut is employed which permeates the tissues and stains the necrosed parts. M. le Grand has worked out a dye consisting of 40 per cent. formalin to which 10 per cent. of methylene blue is added. By this solution healthy tissues are simply dyed blue, but necrosed parts become so dark as to be almost black, the parts to be excised being thus easily distinguished. The method is particularly valuable in ramified wounds, especially when complicated by frac-

tures with 'splinters. Employing this method M. le Grand has only had four deaths in 109 cases of immediate suture of wounds thus treated. In 25 out of 26 cases of fracture treated in the same way the wound healed without suppuration.—B.M.J.

OBITUARY.

THOMAS JOHN DAVIES, M.R.C.V.S., 7 Queen St., Chester. Graduated, N. Edin: July, 1884.

Died on the 20th July, 1917, at the age of 56 years.

DAVID EVANS, M.R.C.V.S., Old Bridge House, Haverfordwest, Pembrokeshire. Lond: March, 1882.

Mr. Evans, whose death occurred on July 27th, has for the last 30 years conducted a large and successful practice, including the duties of Veterinary Inspector for the County of Pembroke. He has suffered a long and very tedious illness from a dilated heart; he was 58 years of age, and he leaves a widow and four children, the eldest of whom is Lieut. Roderick Evans, R.E., who has been fighting in France for over two years.

Mr. David Evans was celebrated as a prize-winner for the best hunters, at all the shows of importance in the Principality, a keen sportsman, who rode regularly to hounds in the happy days before the war, and a genial and most popular gentleman, belived by all classes of

society, by whom he is greatly missed.

CHARLES EDMOND WADDY, M.R.C.V.S., North Portal, Sask, Canada. Edin: May, 1906.

Reported deceased, date not given.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

			Anth	rax	and-N Dise	Iouth	Glan	ders.†	Para Mar	sitic		Swine	Fever.
Period.			Out- breaks (a)	Ani- mals.	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
Gт. BRITAIN. Week er	nded July	7 28	3	4			1	1	39	55	1	32	21
Corresponding week in	1916 1915 1914	 	7 10 6	7 12 7			2	2 45	25 18 24	46 34 30	1 1	75 70 82	55 286 1165
Total for 30 weeks, 1917			311	357			17	28	1734	3412	391	1575	680
Corresponding period in	1916 1915 1914	 	345 391 480	406 448 520	1	24 74	32 32 65	84 59 209	1590 520 1476	3641 1139 2579	178 159 150	2970 2687 2517	8385 12188 26605

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, July 31, 1917.

Excluding outbreaks in army horses.

IRELAND, Week end	ed July 28							Outbreaks 3	3	3	17
Corresponding Week in	1916 1915 1914	:::						2	8 2 9	6 5 5	57 23 22
Total for 30 weeks, 1917		3	5			1	1	32	239	156	980
Corresponding period in	1916 1915 1914	3	7	 76	957			43 44 54	249 264 370	194 159 138	1115 894 709

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, July 30, 1917.

Note.—The figures for the Current Year are approximate only.

*As diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1518.

AUGUST 11, 1917.

VOL. XXX.

MALLEIN.

In our correspondence column to-day Mr. Charles Morgan corroborates the observation of M. Fayet that a severe local reaction to mallein, especially if the injection has been made low down the neck, is often accompanied by lameness of the forelimb on the same side as the injection. In calling attention to the phenomenon M. Fayet expressed the opinion that it had not received due attention from veterinarians: and this could probably be said of those in our country as well as his own, though at least one English clinician has observed the symptom independently. Without magnifying the importance of the matter, it may fairly be said that it appears likely to be of use at times in assessing some reactions-it is, in M. Fayet's words "a secondary sign to the reaction of mallein which should not be forgotten.'

Perhaps there are still not a few veterinary surgeons who fail to take a sufficiently comprehensive view of all the results of the mallein and tuberculin tests. There is a natural tendency to allow the major signs of a reaction to unduly obscure the minor ones; and this has led some men very far wrong indeed. We have even known one highlyskilled clinician who, judging from a considerable experience that the local reaction to mallein was more reliable than the thermal one, discontinued temperature-taking for some time, until an accidental and rather disconcerting occurrence showed him his mistake. This was an extreme example, for a thermal reaction is one of the major signs of the mallein test; but it illustrates a common danger in practice.

It is quite conceivable that there may be really important reactions to mallein and tuberculin which we have not yet learned to recognise. Most men, for instance, regard the intra-dermal tuberculin test as producing solely a local reaction—but there are observers who attach much importance to a rise of temperature in connection with it; and, if this is correct, the value is obviously increased.

CANINE TETANUS.

Recently we printed a note on this subject, with the result that last week we were able to publish four new clinical reports of it. These are valuable, for the condition is undoubtedly rare; but does not their synchronous appearance, with the dates given of their occurrence, suggest that many are unrecorded? How many other conditions are there, not so rare as canine tetanus, of which we have even fewer records? This is an illustration of the amount of clinical experience of which the profession | called Pastour tuberculin according to the instrucat large never receives the benefit.

TUBERCULIN.

It may be of interest to some of your readers if I give my experience in the use of tuberculins of British and French manufacture. Personally I am convinced that these tuberculins do not always give the same reaction. At one time I had the utmost confidence in the tuberculin made by a British firm of repute whose products I used. When the Tuberculosis Order first came into force I had three months' experience in testing the veracity of tuberculin of British manufacture. All the cases that gave a reaction were slaughtered, and on post-mortem all of them proved to be affected with tuberculosis in an advanced stage.

One case that was reported as being suspected of suffering from tuberculosis was an aged blue-grey cow, whose appetite was fickle. She was hidebound, emaciated, low in the neck, with high shoulder points, and suffering from diarrhea. This cow did not react to the tuberculin test, consequently I did not have her slaughtered at the time as tuberculous, though so far as I was able to judge from general appearance the cow was tuberculous. About a month afterwards this cow was unable to rise. The owner expressed a wish that I should make an examination and ascertain the cause of her condition. On post-mortem, I found a great number of calcareous deposits in the bile ducts, and a diseased condition of her liver that accounted for the cow's death, but no trace of tuberculosis could be found.

In all the cases on which I made post-mortem examinations the tuberculin test proved to be correct, and in all these cases British-made tuberculin was used.

In this part of the country periodical sales are held where podigree animals are sold as having passed the tuberculin test, and buyers, buying for export, prefer the name of the tuberculin used to be stated on the certificate. Sellers inform me that export buyers put little value on the certificate unless Pasteur tuberculin has been used. At one time I considered this a mere whim on the part of the buyer, as I thought that a reputable British firm would be as apt to turn out a tuberculin quite as reliable as that issued by any French firm; consequently I gave the British makers the preference. Time and experience have somewhat modified my views, and not, I think, without reason, as the following incident will show.

I was asked by a gentleman to test for him six young bulls, their ages ranging from ten to twelve months. I injected each with a dose of the sotions sent with the material. I may here say that I never give large or double doses, but always make a practice when testing to follow the instructions sent with the tuberculin. In this case all the six bulls failed to pass the test. This proved very disappointing, the owner declaring he had no faith in the test. I received the owner's permission to retest them in six weeks, using on this second occasion a British-made tuberculin, four of the bulls, to my surprise, passed the test, and two failed. Six weeks later I again called, and the owner kindly permitted me to again test four of the bulls—two that had failed to pass the test when both kinds of tuberculin were used, and two that had passed the test when only British-made tuberculin was used. On this occasion I again used Pasteur tuberculin, and again the whole of the four failed as on the first occasion. All the bulls were in the best of health during each successive time of testing, and none of them showed any local swelling at the seat of injection.

I mention this because I was informed by a gentleman who had many animals tested, that in a good many of the animals that failed to stand the tuberculin test he had observed a local reaction in the form of a swelling at the seat of injection. Personally I have not observed any such swelling, and if I did I would not consider the test reliable in

such a case.

Both tuberculins ought to have given the same reaction, but as we have seen they did not do so. I have tested cows that have been bought as having passed the British tuberculin test. A month afterwards I have tested them with Pasteur tuberculin and they have reacted. These cows have grazed during the month with cows that had passed the tuberculin test. Infection was thus reduced to a minimum. I have tested cows, heifers, and bulls, as often as three times over, and upon failing once to Pasteur tuberculin the same failure with the same tuberculin always followed.

I am not in a position to say that Pasteur tuberculin gives the correct diagnosis. This could only be ascertained by very careful post-mortem examinations, which an ordinary veterinary surgeon has not the opportunity to carry out. But what I do feel disposed to say is that it gives a reaction in some cases when other tuberculins used fail to

do so.

WM. TOPPIN HEWETSON.

ABSTRACTS FROM FOREIGN JOURNALS.

OBSERVATIONS UPON THE PERIOD OF INCUBATION OF EPIZOOTIC LYMPHANGITIS.

Chapron has published, in Le Recueil de Mêdecine Veterinaire of December, 1916, some observations upon this subject. Epizootic lymphangitis has been repeatedly studied with regard to the duration of its period of incubation. Experimental inoculation shows that the period between the moment of infection and the appearance of the cocci, or other common bacteria, a solution of first symptoms of the disease is generally very nitrate of silver has given the best results.—(Revista long, and extends to weeks. The same is thought de Veterinaria Militar).

to be the case in natural infection; but the time at which the cryptococcus has penetrated the organism is almost always unknown. Chapron's observations enable the duration of the period of incubation of the natural disease to be fixed.

On June 13 Chapron received a consignment of horses coming from a depot into the stables entrusted to him. When examined, all appeared perfectly healthy; and there was nothing to indicate the existence of a latent infection. Four of these horses afterwards developed epizootic lymphangitis, the first symptoms noted in the different animals were September 1 and 4, and October 2 and 11 respectively.

The animals, immediately after their arrival, had been consigned to various batteries, and had had no more contact with each other. The four cases therefore showed the following features:—the same disease, the same origin of the horses, no intercontact between the horses after their arrival at the stable, and a complete absence of other cases

of lymphangitis in the stable.

One is therefore justified in admitting that these animals were bearers of the germs at the moment of their entrance into the stable, and that the period of incubation in each case had been longer than or at least not less than the time which elapsed from the day of the arrival to that on which the first symptoms of disease were noticed. These periods were respectively: 80 days for the first horse, 83 for the second, 111 for the third, and 120 for the fourth. These figures are well in accordance with the duration of incubation fixed by experimental test.—(La Clinica Veterinaria).

THE METHODICAL USE OF ANTISEPTICS.

Prof. Roux referred to this question in a communication to the Academy of Sciences early last year, and gave an account of Cazin's work upon the subject in collaboration with Mdlle. Krongold. According to these authors, the selection of the antiseptic to be used should depend upon the species of microbes to be combated, for the microbial flora of a wound are very variable. There is no universal antiseptic which is efficacious in all cases. Roux insists upon this point, and, following the work of Cazin and Mdlle Krongold, names the antiseptics most suitable in different cases. It follows from this that it is necessary to make an attentive examination of the microbial flora of a wound, and not to proceed without method to the employment of antiseptics.

The authors draw attention to the almost exclusive action of the serum of Leclainche and Vallée upon streptococcal suppurations, and its lesser efficiency in suppurations due to anærobes, such as the bacillus perfringens and the septic vibrion, accompanied by anarobic streptococci. In the treatment of infected wounds, the flora of which contain the bacillus pyocyanus or a predominance of staphylococci, associated with various diplococci,

THE DOG AS A CARRIER OF ANTHRAX.

Luigi Sani reports some experiments upon this subject carried out at the Institute of Pathology at the Veterinary School of Turin. The aim was to decide if a dog in a perfect state of health, fed upon anthrax flesh or swallowing, or licking, or in other ways having contact with infective material, may, without suffering the least harm from it, become an agent of diffusion by means of his excrements. The high resistance of the dog against anthrax is well known; but his importance as a possible carrier of the disease is perhaps not yet sufficiently appreciated.

Three dogs were used for the experiments. Each received one meal, weighing in the different animals to 100, 200, and 300 grammes respectively, of a mixture of muscles, spleens, livers, hearts and kidneys of some guinea-pigs affected with anthrax. It was ascertained that this mixture was very rich

in anthrax bacilli and spores.

The day after the meal, some of the fæces of each dog were collected and tested by cultural experiments; and all colonies of typical anthrax or suspected of being so were re-sown on other different media, and their virulence was proved by inoculation into guinea-pigs. Both cultural and inoculation tests yielded positive results in all three dogs. The collecting and testing of the faces was repeated again and again at intervals of a few days, so long as the results remained positive. All the dogs remained perfectly healthy throughout the whole period of the experiments, though all continued to excrete virulent faces for some time. The author's conclusions from the experiments may be summarised as follows :--

It is possible to demonstrate anthrax bacilli in the fæces of dogs which have fed upon anthrax

flesh.

The test is positive even 26, 28, and 32 days

after the ingestion.

From the author's observations it is clear that a dog fed upon anthrax flesh may propagate infection at a distance, and it is easy to explain how such dogs may become living agents of infection in remote districts. They traverse extensive regions, and defecate or vomit upon meadows and fields, and along the course of rivers and streams. Care fected early in life, recover, and afterwards carry the should be taken not to allow dogs to eat the flesh of anthrax carcases or to lick contaminated material or utensils; and dogs should be kept away from places where recent anthrax carcases are buried, as it is well known that they try to dig them up to eat the flesh.—(La Clinica Veterinaria). W. R. C.

The progress of Immunisation in Rhodesia.

In our issue of Dec. 2 we reprinted portions of an article on "Immunity," from The Rhodesia Agricultural Journal, and subsequently commented on the endeavour of that and other Agricultural Departments overseas to "educate" the agriculturist in the value of the Veterinary Service placed at his disposal. The following extract is from the concluding article of the same series by Mr. Ll. E. W. Bevan, and is further evidence in the same direction.

"Plasmoses occur in nearly all species of domestic animals in this country, the parasites being specific in respect to the diseases which they produce; that is to say, the parasite of the dog is pathogenic only to canines, the parasites of the ox set up disease only in

The so-called malignant jaundice or "biliary fever" of dogs is caused by a parasite (P. canis) akin to the redwater parasite of cattle, and is transmitted by the "dog tick." In this country the commonest form of the disease is characterised by intense anemia; the bilious form is occasionally met with, chiefly among recently imported dogs or those of finer breeds. Locallybred dogs, especially those born during the wet season, when ticks are prevalent, contract the disease early in life, and, suffering only from a mild form of the disease, recover and become tolerant, the parasite remaining in

their blood for years.

This parasite responds in the same way as the redwater parasite to injections of trypan-blue, which cause it to disappear from the blood-stream. The infected it to disappear from the blood-stream. The infected animal recovers and becomes immune, although the parasites remain in its blood. The manner in which this immunity or tolerance is brought about has not been determined, but it is suggested that the drug destroys some parasites and arrests the activity of others. From the degenerated parasites toxins are liberated, against which, during the period in which the parasites are held in check by the drug, the organism of the infected animal responds by the production of anti-toxins; so that when the drug is subsequently eliminated and the surviving parasites again assert themselves, they are opposed by anti-bodies, which neutralise the toxins they produce and render them harmless. In practice, it has been found best to withhold the drug until the blood is freely charged with parasites, when its introduction will cause the destruction of the greatest number of them, and, on the basis of the above theory will bring about a plentiful production of anti-bodies and a lasting immunity. The indiscriminate application of the drug in mild cases is frequently attended by disappointing results, little or no immunity being established. The parasites often re-appear, giving rise to acute symptoms, when the second application of the dye fails to

Biliary fever of equines is a disease belonging to the same class which used to be prevalent in this country some years ago after the Boer war, when horses bred in countries free from the disease were imported into South Africa, and some of them made their way to Southern Rhodesia. The parasite is transmitted by the red-legged tick, which is practically ubiquitous in this country, so that the African-bred horses become inparasite in their blood. Occasionally the disease is met with in old horses whose lowered vitality reduces their immunity, and in all probability many cases of horse-sickness are complicated by a renewed activity of this

parasite.

A method of conveying immunity was discovered by Theiler, who inoculated susceptible horses with the blood of young donkey foals which had recovered from the disease. The parasite so obtained was of low virulence, and set up a mild infection, from which the horse

recovered and derived immunity.

East Coast fever is a disease of bovines caused by a parasite, Theileriat parra, which is conveyed from sick to susceptible animals by the brown tick. No other species of animal is known to be susceptible to the disease, and when an infective tick bites any other species it produces no harm, and itself becomes cleansed from infection. In countries where this disease is enzootic, cattle appear to possess some degree of inherited immunity, but even in such areas the mortality among young stock is appreciable. Experience in this country indicates that cattle of South African breeds show a lower death rate than those of local breeds, while the mortality among the latter is lower than among grade stock. It has been observed that the disease appears to increase in virulence by passage through better bred animals, and especially through unthrifty calves of

improved stock.

The parasites are not hereditarily transmitted in the tick, but when taken up in infective blood by a tick, they are transmitted by it in the succeeding stage of its development. Thus, if the larva of the tick sucks blood containing the parasite, the tick is infective as a nymph, or, having sucked infective blood as a nymph, it is infective as an adult. The parasite, however, does not pass through the eggs of the tick. Whereas in redwater the parasites persist in the blood of recovered animals for years, the parasite of East Coast fever no longer exists in the blood of a recovered animal, which is therefore incapable of infecting ticks. Moreover, East Coast fever cannot be communicated by the inoculation of blood containing the parasite, even when several litres of blood are injected. It is probable that the form of the parasite which is present in the blood cannot undergo any further development until taken up by the tick; "the corpuscles merely serve as vehicles for the tick, the topuscies merely serve as venicles for the parasites wherein they are housed and maintained until they reach their destination within the tick, which serves as their vector" (Nuttall). The parasite inocu-lated by the tick makes its way into the internal organs, where by development it forms the so-called Koch's bodies, and probably gives rise to toxic substances. When the life of the host is endangered, the parasites emerge and make their way into the corpuscles, in order that they may maintain their existence by being picked

up by the tick.

The fact that the developmental forms of the parasite are met with in the internal organs has suggested a means of conveying the disease with a view to estab-lishing immunity. Infected gland or spleen substance is pounded up into an emulsion, and is injected into the inoculated for the third time with blood from a naturveins of cattle. This gives rise to the disease in the ally infected ox, that it developed the disease. From majority of the treated animals, from which 40 per cent. to 80 per cent. may recover. This method was applied in the native territories of the Transkei, where over two hundred and fifty thousand cattle were inoculated, of which 40 per cent. recovered. In practice, however, the disease is generally dealt with by short-interval dipping, and the system of inoculation is only resorted to in exceptional circumstances where dipping is impractic-

Trypanosomiasis. This term includes certain diseases of man and the lower animals caused by the invasion of the blood stream by minute flagellated protozoa called trypanosomes from their characteristic movements when viewed under the microscope.

The manner in which these parasites are transmitted from sick to healthy animals varies, but, as far as the trypanosomiases of this country are concerned, the most common method of transmission is by the bite of the socalled tsetse fly, a fact which has long been recognised, and had given rise to the name "fly disease," affected animals being generally referred to as "fly struck."

The economic importance of the trypanosomiases is greater than appears at first sight. Apart from the actual mortality caused by them, large areas of valuable territory, some sixty million acres in Northern Rhodesia and ten million acres in Southern Rhodesia, are rendered dangerous or unsuitable for settlement by the presence or menace of the tsetse fly.

In studying these diseases in the past, the greatest importance has been attached to the appearance or shape of the trypanosomes when viewed under the microscope, and elaborate systems of measuring and panosomes exists, it is not known upon what it depends differentiating have been devised with the result that and it has at present been found impossible to repro-

innumerable species have been identified. The smallest irregularity in any specimen has prompted some extremist to create a new species, with the result that much valuable time has been spent in this research which might have been devoted to more practical issues. Another feature upon which species have been created is the virulence of the parasite for different species of animals. But it is possible that these points of different species of animals. ence are sometimes evidence not so much of different species as of different strains of a common species, for it has been found that both the shape of a trypanosome and its virulence for certain animals can be modified by artificial conditions. Thus *T. brucei*, the animal parasite of South Africa, which has been studied very closely since its discovery as the cause of "Nagana" by Bruce in 1896, when inoculated into resistant animals, such as adders or tortoises, produces very small forms, but when transferred from them to rats, highly susceptible hosts, develops forms much larger than normal. It is, therefore, possible that in nature the shape of a trypanosome may be considerably modified by the susceptibility of the hosts in which it commonly maintains its existence.

Again, the virulence of a strain of trypanosome may vary by passage from animal to animal. When a natural strain, that is to say, a strain met with in an animal infected under natural conditions, is studied in the laboratory, it may be found to be virulent for some species of animals and harmless for others, which appear to be insusceptible to it. This resistance, however, may sometimes be found to be more apparent than real. For example, when the cattle trypanosome of the Hartley district was first investigated in 1909, great difficulty was experienced in establishing a strain of the parasite for study at the laboratory, the usual small laboratory animals resisting inoculation with natural virus, but eventually becoming infected after repeated inoculations or repeated doses, their resistant elements probably becoming exhausted thereby. It was only when a certain rabbit had been taken to the Hartley district, and had been this rabbit it was easy to infect other rabbits. Again, sheep are said to possess a marked degree of resistance to this trypanosome under natural conditions, and this was confirmed at the laboratory. But when once a sheep had become infected by repeated inoculations of infective blood, other sheep were readily infected from it, the disease produced in them increasing in virulence by inoculation from sheep to sheep, so that a strain of trypanosome, at first regarded as non-virulent for sheep, after a number of passages became capable of killing sheep with deadly certainty in less than sixty days.

Thus we see the shape and virulence of a strain of

trypanosome greatly depends upon the susceptibility of the hosts to which during its evolution it has accommodated itself. In the so-called "fly-belts" the game harbour trypanosomes, although apparently unharmed by them, and serve as a "reservoir" from which tsetse flies feeding upon them pick up the parasite. But when these infective flies inoculate the progeny of these trypanosomes into unusual hosts, such as domestic animals, upon which they feed, they set up disease, sometimes chronic and sometimes acute, again depending upon the susceptibility of the animal. That the virulence of the strain depends upon the resistance of the host rather than the power of the parasite is shown by the fact that "fly.struck" cattle may harbour trypanosomes unharmed for months during the dry season and only develop acute symptoms of the disease a few weeks after the first rains, which probably reduce their vitality and powers of resistance.

Although this immunity or resistance against try-

duce it artificially. Certain experiments have shown that the leucocytes, or white blood cells, of resistant animals play an important part, while others prove that the serum of such animals, when mixed with virulent blood and inoculated into susceptible animals, will delay and sometimes entirely prevent infection. Unfortunately, it has not been found possible to put this know-ledge to any practical use. It is possible that the viru-lence of the pathogenic trypanosomes depends upon toxins produced rather than the actual mechanical damage effected by the parasites. There is a trypanosomiasis prevalent among rats in most parts of the world in which the blood of infected animals is swarming with parasites (*T. lewisi*), sometimes more numerous than the red-blood cells themselves, and yet the death of infected animals is extremely rare. On the other hand, when sheep are infected with one of our local trypanosomes (T. brucei, var. rhodesiense), parasites are rarely found in the blood; nevertheless the disease produced is acute and death is inevitable. At present, however, it has not been found possible to isolate these toxins, or

to produce anti-toxins to oppose them.

There are two principal forms of trypanosomiasis met with in man and animals in Southern Rhodesia. The first is due to a small trypanosome belonging to the T. pecorum group, and affects cattle exposed to the bite of tsetse fly which have previously picked up infection from game or other infected animals in the so-called "fly-belts." Under natural conditions the organism is apparently of a low degree of virulence, which, however, becomes enhanced by passage through highly susceptible hosts, such as cattle of improved breeds or animals whose vitality has been reduced by over-work, underfeeding, or unfavourable climatic conditions. In such circumstances, where sufficient tsetse flies are present to bring about the rapid transference of virus from animal to animal, the severity of the disease produced increases, and animals may die with alarming rapidity. Man, horses, mules, donkeys, goats, sheep and dogs are generally immune to natural infection, but exceptions have been met with. Dogs have been known to become infected in an area where the disease had become acute for cattle, and in another district where an exceptional number of tsetse flies was present. Very rarely the parasite has been met with in donkeys, in which it has given rise to a mild infection. Game harbour the parasite, apparently unharmed by it, and indigenous cattle in areas where fly are few, or which have been rapidly passed through a "fly-belt" and infection has rapidly passed through a "fly-belt" and infection has treatment. The parasite disappears after the first exnot been heavy, contract a very mild form of the hibition of large doses of antimony, but reappears and disease, which may not produce any appreciable symptoms so long as other conditions are favourable. It is probable that in a large number of them actual recovery takes place. In cattle the disease is amenable to treatment by injections of preparations of antimony and arsenic. In outbreaks where the disease has assumed a virulent form and deaths have resulted, remarkable recoveries have occurred as the result of this treatment. It is probable that an actual cure is only effected in a small percentage of cases, but that the application of the drug brings about a state of tolerance similar to that produced in redwater by the application of trypan-blue. It is known that many of the animals, which have to all appearances recovered, continue to harbour the parasite in their blood, and remain unharmed by it until adverse circumstances reduce their power of resistance. A remarkable fact in connection with the drug treatment of trypanosomiasis is that if antimony or arsenic is applied in doses insufficient to arrest the disease, although the parasites may temporarily disappear from the peripheral blood after the first exhibition of the drug, they will again reappear, and will be found to possess a marked resistance to the drug, and in time, after repeated doses, will become completely immune to it. What is more, if such an arsenic-resistant race of

trypanosomes is transferred to another animal, the decendant race of parasite developing in that animal will again prove arsenic-resistant. This power of developing immunity to drugs, which is shared by other species of protozoa, constitutes a grave difficulty in the treatment of the diseases to which they give rise.

The second form of trypanosomiasis is due to a paraside to which the undesirable name T. rhodesiense was given, but which is now recognised as a strain of T. brucei, which, of all South African trypanosomes, has been investigated for the greatest number of years, but was not hitherto recognised as infective to man. It was at first only encountered in certain areas of Southern Rhodesia, such as the Mafungabusi district, and it was at one time thought that certain climatic conditions were necessary for its existence. The recent discovery of cases in districts remote from the original area indicates that this theory may be incorrect. The disease first attracted attention in 1909, when a white man who had travelled from Northern Rhodesia arrived in Hartley, and was found to be infected with trypanosomes. His blood was inoculated by the writer into laboratory animals, and gave rise to a very acute disease in them, and also in sheep, goats and mules. The presence of trypanosomiasis infective to man caused considerable alarm, especially when on investigation a large number of game in the tsetse fly (Glossina morsitans) areas was found to harbour a parasite of similar appearance. However, it was pointed out that, in view of the prevalence of the parasite in the lower animals, and its extreme virulence when inoculated into man and domestic animals, the natural infection of man must be a rare occurrence. This contention has been proved to be correct, for since the discovery of the parasite, the number of human cases in infected areas has been comparatively few, and it is probable that in natural circumstances man does possess a certain degree of resistance to natural infection. Lately, donkeys in an infected area have become infected, but natives and white men working with them have escaped. Mules exposed for a few days have similarly contracted the disease, but their riders have remained unharmed. Dogs, goats, and sheep in a certain native village were shown to harbour trypanosomes of characteristic type, but no natives were found to be suffering from the disease. In another village, a native woman and her child were apparently the only persons affected.

The disease is very deadly, and does not yield to drug proves refractory to subsequent doses. In view of the uncertainty and unsatisfactory results of treatment in the known principles of immunity to any practical use, it is probable that the solution of the problem must depend upon the climination of the tsetse fly. Just as yellow fever in the Panama zone has disappeared with the destruction of mosquitoes, and East Coast fever and redwater have been combated by the eradication of the tick, there is every reason to believe that the disappearance of trypanosomiasis from Southern Rhodesia will follow the discovery of a successful method of eradicat-

ing the tsetse fly.

By way of appendix Mr. Bevan quotes records of various pedigree animals which he has successfully inoculated from 1908 onwards. In October, 1915, the owners of bulls inoculated at at Letombo in 1911 were circularised as to results, and eleven of the replies give breeding results in calves in the following numbers: 250, 220, 199, 120, 143, 164, 117, 226, 90, 145, 120. He states that these are "a few examples from a great many equally satisfactory:" and concludes with the following

"The progeny of inoculated females, often disappointing with the first or second calf, generally improves. Even the first calves are sometimes satisfactory, as is shown by the fact that the bull calf of the cow 'Green Head Cherry 2nd,' inoculated in 1912, was sold as a yearling for the sum of £160, and many others of the same consignment are said to have given birth to healthy, well-developed calves valued at £10 to £50 each.'

MEAT INSPECTION.

By WILLIAM J. HOWARTH, M.D. Manch., D.P.H., Medical Officer of Health, City of London.

The following excerpts are from the first of The Milroy Lectures, delivered before the Royal College of Physicians. These lectures are, of course, prepared for medical men, and it will be a matter of satisfaction to the veterinary profession that the exposition of the subject is in so capable hands.

The subject of Meat Inspection will, I believe, receive more attention after the war than has been the case in previous years. Many striking anomalies, and defects of an administrative character which call for reform and improvement exist, and to these official notice was being directed before the great upheaval temporarily relegated them along with other reforms to a position of compara-

tive obscurity.

The distinguished physician with whose name these lectures are associated, and owing to whose munificence they have been established, enumerated in a peculiarly happy manner certain principles of necessary sanitary reforms which have proved to be almost prophetic since they outlined the directions along which practically all later sanitary improvements have progressed. Sufficient time has elapsed not only for these principles to have been put into practice, but for definite results to have been realised, and nobody can deny that they have conferred measureless benefits on the community at large. It must also be a source of satisfaction to English sanitarians to know that their earlier lines of action were so fully appreciated by workers in the same field in other countries that they followed the lead thus given with equally gratifying results.

One may safely say that it is only within the last 10 or 15 years that the control of the food of the people has received the serious attention which it merits. This is somewhat surprising, for although the lead in sanitary reform must rightly be given to Great Britain, progress in matters associated with the food supply has been

much more rapid in other countries.

In these lectures only that part of the subject which deals with the inspection of flesh meat will receive attention, and even with this limitation many important topics will not be considered.

LACK OF UNIFORMITY IN INSPECTION.

Meat inspection in this country, with the exception of that conducted at a few special centres, is carried out by sanitary authorities in a distinctly haphazard manner. The work is rarely undertaken energetically, nor are there any regulations to control the system as it exists except as affecting foreign meat and the recommendations of the Royal Commission of 1898. The former indicate a definite line of action to be taken in certain circumstances; the latter, however, are submitted in the form of advice, and although fairly sound are not entirely satisfactory. Authorities are advised by the Local Government Board to require that inspectors, among whose duties may be included the inspection of meat, shall furnish evidence of competence, but I do not think this is a firm requirement in those districts in one pig carcase, and certain pieces of indefinite character which there is only a single inspector. In addition to and amount, such as 1 cwt. of pieces of beef and pork;

these deficiencies the fairly general absence of facilities for adequate inspection adds to the difficulties, with the result that want of uniformity exists both in the amount of inspection which is undertaken and in the decisions which are arrived at in comparable cases.

Absence of uniformity of inspection affords oppor-

tunities for the practice of much deceit, with the result that both the public and the honest trader are pre-judiced. The former since it is possible for meat of unsound character to be sold, and the latter since he is handicapped in trade by a competitor who takes advantage of the local negligence which he knows exists.

Though much remains to be done before a satisfactory system exists, the position is apparently improving, for the Local Government Board in the Report for 1912-13 (p. lvi.) state that "of late years public attention has been increasingly directed to the importance of maintaining the purity of meat supplies." It is probable that this improvement is taking place chiefly in the large urban centres and in districts where officers who have specialised in public health work are engaged. That there is by no means a universal improvement will be gathered from the consideration of meat seizures in a

year in any large area.

As a preliminary to the consideration of other figures, and for the purpose of giving some idea of the number of carcasses and offal which are condemned in a wellinspected area, figures are submitted which relate to condemnations in the private slaughter houses situate within the area of the City of London at Aldgate. At these places an inspector is always on duty whenever slaughtering is in progress, as also is one or more Jewish officials, whose chief duties are to approve carcasses as kosher meat, for which purpose a considerable number are slaughtered on these premises. A by-law is also in force which requires butchers to give notice if they intend to slaughter animals before 7 a.m. or after 3 p.m. on Sundays, and before 6 a.m. or after 9 p.m. on weekdays. Supervision is therefore constant.

The number of different animals to which the classi-

fication relates is: cows, heifers, and oxen, 68,438; calves, 50,288; sheep, 102,912. Of these, 341 whole carcasses of beef and 197 quarters were destroyed as unfit for human consumption, as well as 139 whole carcasses and 21 quarters of veal, and 275 whole carcasses and 28 quarters of mutton. This indicates that about 5 per 1000 cattle are wholly condemned and over 2.5 per 1000

calves and sheep respectively.

[Comprehensive tables are given of the principal causes of condemnation of organs among these animals, compiled from summaries commenced by my predecessor, Dr. W. Collingridge, and Mr. T. Dunlop Young, veterinary surgeon to the Corporation.]

Paucity of Meat Inspection.

For comparative purposes the number of condemnations in a single year in an area comprising about a million persons has been extracted from the annual reports of the district medical officers of health. All the districts within the selected area are included in the summary, and, as there is only one county borough of small size, there are no centres from which well-inspected meat can be distributed on a large scale excepting London, which, of course, supplies a considerable amount of carcass meat to that part in closest contact. The area extends from London to the Channel.

There were ten urban areas with a combined population of 298,000 and three rural areas with a population of 59,000 in which meat was reported as having been condemned. In the urban districts the total condemnations were 12 carcases of meat, three carcases of mutton,

several pieces of beef; parts of the carcases of eight bullocks, sheep and pigs; a sheep's liver; large quantities of unsound meat, fish, and fruit, a quantity of meat, and 225 lb. of frozen meat. In the rural districts the condemnations were one quarter of beef; "the car-case of a strangled bullock"; 50 lb. of meat; and a "considerable amount of meat." in 15 urbes and a

In 15 urban districts and five rural districts with aggregate populations respectively of 173,000 and 68,000 the reports definitely stated that no unsound meat had

been discovered.

In the reports relating to 16 urban districts and seven rural districts, with respective populations of 236,000 and 184,384, the subject was not referred to, and it is probable that in the majority of these places no unsound

food had been dealt with.

Although it is impossible to state the number of animals slaughtered in any area in which inspection is only partially carried out it must be considerable in a population of 1,000,000, even if it is allowed that 45 per cent. of the supply is frozen or chilled imported meat, or that some home-killed meat in the carcase form is purchased at Smithfield, and the deduction is permissible that the figures stated indicate that meat inspection could not be practised on a much more meagre scale. This fact is further emphasised when it is remembered that of the meat condemned a certain portion was seized at military camps as a result of inspection by the military officers, since it may be assumed that if a certain amount of meat brought to these camps, with the knowledge that it will be inspected, is found to be unfit for human consumption, the general supply must also contain many more instances than those mentioned. The inadequacy of meat inspection in these selected districts is not exceptional, and I do not believe it is worse than that in similar districts.

As further bearing on this subject it should be observed that there is the risk of an excess of unsound meat being sold in districts in which meat is not examined, and more particularly when they adjoin or are in close proximity to a large town in which meat inspection is reasonably carried out. After the opening of the m.D., D.P.H. ("Public Abattoirs," Public Health, xvii., 442-450) reported that—

"It has not been an uncommon experience for the

owner of an animal condemned by us to tell the in-spector that it is the last time he will have the chance of taking any of his animals, and it has been found in each case that no more animals coming from this source have been slaughtered in the abattoirs. One naturally infers that the animals from such a man are now sent to other districts where inspection is less thorough.

This avoidance of supervision certainly ought not to

be possible.

Absence of inspection in circumstances such as these also renders possible a trade in unsound carcases for use in prepared meats. These foods are manufactured chiefly from lean meat such as is frequently found on the carcases of old animals. These animals may have suffered from tuberculosis and whilst not marketable in the carcase form may avoid detection if cut up into small parts and all evidence of disease removed. That a trade in doubtful meat of this character does exist is undeniable, and it is most difficult to detect. If packed in baskets after being boned or even if loosely thrown into carts the careless method of transportation sup-ports the contention that it is intended to be used for feeding animals, and it is only when discovered on foodpreparation premises, or when actually being so transferred, that the evidence of ultimate use is sufficient to justify magisterial proceedings. Such meat can also be so trimmed, or parts selected with sufficient ease, to render it difficult to detect disease. In view of the fact

that more instances of ill-effects to the community have been reported in recent years in this country from the consumption of prepared meat than of fresh meat it is desirable that all meat intended for use in the prepared form should be examined and passed before being so used

(To be continued.)

PARLIAMENTARY.

In the House of Commons, Monday, Aug. 6. CLIPPING OF ARMY HORSES.

Mr. Macpherson (Ross and Cromarty, L.), replying to Lieutenant-Colonel Sanders (Bridgwater, U.), said many horses of the British Expiditionary Force last winter were clipped at the base before being sent to the front and picketed out. Late clipping was only one of several contributing causes of horse mortality. There were, for instance, the reduction of the corn ration, the unusually hard and late winter, and, above all, the terrible condition of the ground in the region of the Somme and the Ancre. Clipping of horses infected with mange was necessary at all times in order to treat the disease, and it would always happen that a proportion of horses discharged cured from mange from veterinary hospitals would have to be issued to field units in a clipped condition. Orders had been issued to regulate clipping in the coming winter.

Experiments on Living Animals.

A return issued on Saturday, Aug. 4, for England and Scotland on the subject of vivisection in 1916 states that there were 66,043 experiments performed, 4530 fewer than in 1915, and that 64,295 operations were devoted entirely to inoculations, hypodermic injections, and "some few other proceedings," carried out without anæsthetics.

For the most part the animals were found to be suitably lodged and well cared for, but there were some irregularities. A licensee who held a certificate for inoculations into rodents, performed similar experiments on monkeys. As the Secretary of State was satisfied that the contravention was due to inadvertence, the licensee was admonished and cautioned. Another licensee performed an operation on a cat, and allowed the animal to recover from the anæsthetic, and in view of his want of attention to the fundamental provisions of the Act, his license was revoked.

Palm nut kernel meal.

A correspondent writing to The North British Agriculturist points out how this presumably valuable feeding stuff has been allowed to lapse to the Germans, apparently without an effort to bring it forward in our

home markets. He says:—

"Palm kernel meal has now been manufactured for a very long time, but it has not been on the British market. Until the outbreak of war, and the consequent closing of the German ports, this huge trade—more than one-quarter of a million tons of nuts annually was almost entirely in German hands. A small quantity of the nuts was imported annually into Britain, but almost all the cake left from the extraction of these was exported to the Continent, where it has always commanded a considerably higher price than in this

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

			Anth	rax		ot- Iouth ase.	Glan	ders.†		sitic			ne Fever.	
Period.				Out- breaks (a)	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.	S	3.24.			100					100	1.72			
1	Veek ei	nded Aug	. 4	2	2					22	32	2	30	10
Corresponding week in	{	1916 1915 1914		3 2 2	3 3 2			2 2 3	3 4 3	30 20 27	49 40 34		72 60 82	54 172 913
Total for 31 week	s, 1917	.,,	•••	313	359			16	28	1756	3444	393	1605	690
Corresponding period in	{	1916 1915 1914		348 393 482	409 451 522	1 11	24 74	34 34 68	87 63 212	1620 540 1503	3690 1179 2613	178 159 150	3042 2747 2599	8439 12360 27518

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. † Counties affected, animals attacked :-(a) Confirmed. (b) Reported by Local Authorities. Board of Agriculture and Fisheries, Aug. 7, 1917 Excluding outbreaks in army horses.

For many years continental consumers, to ensure supplies of palm nut kernel cake and meal, paid high prices—frequently in fact within five shillings per ton of the market price of linseed cake. To give an actual instance, on 10th February, 1914, the market price for palm nut kernel cake on the Continent was the same as that for linseed cake. Knowing the Germans as we now know them, we may rest assured that in this product there is an asset of great value to all who have means to use it.'

EYELASHES IN DOMESTICATED ANIMALS.

In the note on this subject last week, fifth line to read: "It is true that the horse has, besides fine cyclashes, a few long vibrissoid hairs or feelers" etc.

OBITUARY.

WILLIAM AARON ALLOTT, M.R.C.V.S., Upwell, Wisbech. Graduated, N. Edin: May, 1894.

Mr. Allott passed away on August 3rd, aged 58 years. Interred at Upwell St. Peter's, on Wednesday, 8th.

James Macnab Christy, M.R.C.V.S., Capt., S. Africa Veterinary Corps. Edin: May, 1889.

Capt. Christy died at Pretoria on June 29th, aged 48.

ARMY VETERINARY SERVICE.

Buckingham Palace, Aug. 3. The following Officers had the honour of being received by the King, when His Majesty conferred Decorations as follows:-

THE MILITARY CROSS.

Captain James Stewart, Army Veterinary Corps.

War Office, Aug. 7. The names of the following have been brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war :-

Maj. (temp. Lt.-Col.) J. J. Aitken, D.S.O.; Maj. E. Day, ret. pay.

CANADIAN A.V.C.—Capt. A. E. Frape; Qrmr. and Hon. Lieut. A. Newell; Staff Sgt. F. Chappell, 785; Staff Sgt. W. Denton, 34704.

War Office, Aug. 8. The King has been pleased to approve of the following Rewards for distinguished service in the Field, dated June 3:-

TO BE BREVET LIEUTENANT-COLONEL.

Major (temp. Col.) H. M. Lenox-Conyngham, D.S.O., F.R.C.V.S., A.V.C.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL,

REGULAR FORCES. ARMY VETERINARY CORPS.

Lieut. to be Capt. :- G. H. Bennett (July 17).

Temp. Lts. to be temp. Capts. :- E. Salisbury (July 7); M. J. Flynn, T. Morland (July 17).

To be temp. Lieut. :- R. B. Crichton (July 18).

Aug. 6. Temp. Lieuts, to be temp. Capts.:—P. W. Walker (July 21; G. C. Taylor, L. E. Pritchard, J. S. Keane, A. Rouse, T. Bannatyne, J. G. E. Gallie (July 24); J. A. Power (July 25).

Aug. 8. Maj. W. S. Anthony to be actg. Lt.-Col. (Apl. 9, 1915) (substituted for the notification in the Gazette of Jan.

(Substituted for the hosinests in the state of the life, 111, 1916).

Maj. W. C. Lowe to be actg. Lt.-Col. (June 25).

Temp. Lts. to be temp. Capts.:—W. G. Bunnell (May 24); H. Dyson (June 1); A. L. Purdy (June 8).

CANADIAN A.V.C.

Aug. 3. Temp. Lieut. to be temp. Capt. :- C. French (April 17).

Capt. D. S. Tamblyn to be temp. Maj. whilst empld. as Asst. Dir. of Vety. Servs., vice Maj. F. Walsh (from Nov. 22, 1916 to Mar. 9, 1917).

Aug. 8. Temp. Capt. A. Gaudry resigns his temp. commission (July 20).

NEW ZEALAND V.C.

Aug. 4.

Temp. Capt. C. S. Simpson to take rank and precedence in the Corps and in the Army as if his appt, as temp. Capt. bore date the 11th day of Nov., 1915).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Aug. 2. Capt. H. E. Powell relinquishes the actg. rank of Maj. on ceasing to be empld. as A.D.V.S. (June 28). Capt. F. W. C. Drinkwater is granted actg. rank of Maj.

whilst empld A.D.V.S. (June 20).
Capt. R. W. Williams is granted the actg. rank of Maj. whilst empld. as A.D.V.S. (June 28).

Aug. 3. Lieut. (temp. Capt.) to be Capt.: - L. A. Ramsay, from D.L.I. (July 24).

Maj. E. M. Perry, F.R.C.V.S., to be actg. Lt.-Col. whilst empld. as A.D.V.S. (June 16).

The following casualty is reported:-

DIED OF WOUNDS-Capt. W. A. I. Buchanan, A.V.C.

"An undetected war scandal."

The following indictment appeared in *Truth* of July 25 under the heading of "Scrutator," and was reproduced in *The Sportsman* of July 26, followed by the comment of "An old Veterinary Officer" in the issue of 28th.

"I am rather averse to exposing administrative scandals arising out of the war when, as frequently happens, they have been discovered and put right behind the scenes before they can be made public. But there is one scandal which has been in existence so long, in spite of the knowledge of the facts which the military authorities must possess, that publicity is in this case not only necessary, but apparently the only remedy. I refer to the waste of horseflesh. I have lately come into possession of authentic information on this point, and it is calculated to excite the greatest horror and indignation.

Up to a recent date—somewhere about the end of May—upwards of a quarter of a million Army horses and mules had died during the war. In addition to these some 30,000 had been sold owing to age or disease. The total, therefore comes to upwards of 280,000 animals, and this figure does not include animals that have died in Mesopotamia or in operations in Africa outside Egypt, for most of which the Indian Government is probably accountable. Upwards of a million horses and mules have been purchased by the British Govern-ment during the war, and the stock on hand at the beginning of the war was nominally about 25,000. As the latter figure is negligible in relation to the others, it may be safely assumed that more than 25 per cent. of the animals purchased have died. Such a rate of mortality is beyond excuse or palliation, while the 30,000 sales in consequence of age or disease point directly to scandalous laxity in buying. In addition to the animals that have died there were at a quite recent date 84,000 more under treatment in veterinary hospitals in England, France, and the Mediterranean Forces. The rate of mortality appears to have been fairly uniform everywhere, presumably more or less in proportion to the size of the local forces. Thus 42,000 animals have died at home, 143,000 in France, 12,000 in Egypt, and 15,000 at Salonika. The last figure is perhaps specially significant in view of the size of the Salonika force, the fact that the expedition only dates from the end of 1915. But the most significant fact of all is that 33,000 animals have died in America while awaiting ship-

Here we have 39,000 animals purchased for military purposes, not one of which has been available for that purpose owing to their previous decease. In this is presumably to be found the explanation of the greater part of the scandal—namely the culpable negligence, or worse, with which the animals have been bought. One would have thought that the purchase of 33,000 animals in America, not one of which lived long enough afterwards to be shipped to this country, would have opened the eyes of the military authorities to the stupidity or dishonesty of the officials engaged in this business and the extent to which the country was being plundered in consequence. But Gallio cared for none of these things.

One other point requires to be clearly understood. The deaths due to "enemy action" are no considerable proportion of the whole. I cannot give the total figures under this head, but in one week, out of more than 5000 deaths in France, only 118 were due to gunshot wounds

—a trifling percentage. "Enemy action" might have contributed to the same extent to the 39,000 deaths in America or in transit, but it would not alter the broad inference from the facts. As a sidelight upon the general quality of the animals purchased. I am told that some which have survived the Atlantic voyage were found to be over thirty years old. Some are even said to have died upon the gangway at the port of ship-ment under the exertion of walking on board. It may almost be taken for granted that the rate of mortality on this side of the Atlantic has been aggravated by neglect, ignorant "horsemastership," and to some extent downright ill-treatment. On all these points men who have served at the front can give evidence. I have myself heard many lurid statements on the subject. But the figures show that the root of the whole scandal lies across the Atlantic where the wretched beasts were bought.

The official primarily responsible is the Director-General of the Army Veterinary Department. In looking into this matter I have heard nothing tending to mitigate his responsibility, though I suppose it is shared to some extent by the Remount Department. But it is not my business to adjust the burden of guilt, nor have I any taste for scapegoat-hunting at a time like the present. I merely give facts, which I assert can be verified from official records, and I leave the rest of the business in the hands of the House of Commons and the Government. There are many who will be profoundly moved by the humanitarian aspect of the case, and the amount of inexcusable suffering indicated by the lingering death of hundreds of thousands of animals under such circumstances is indeed appalling. There are others who will be more appalled by the material waste, and as I am told that the average price of a horse is about £40, this part of the scandal is evidently measured in millions of money. Others may feel chiefly concerned that the wholesale roguery, not to mention incompetence or negligence, which must have been at work all the time, shall be exposed and punished. Personally I sympathise with all these points of view, and I put the case forward as one which on every ground demands instant and exhaustive official investigation.

[It is common knowledge among horsemen that the real trouble is want of "horsemanship"; in fact, ignorance of stable craft is rife, and many a man of experience who has attempted to put things right has been properly "told off" by his superiors. The difference is always apparent when one comes across horses looked after by those who know and those who don't, It is much the same in the buying of the horses, and we recall the story of the gentleman attached to the Austrian Embassy at the time of the Boer war. He But the most significant fact of all is that 33,000 is reported to have said that there were no more bad horses animals have died in America while awaiting shipment, while 6000 have died at sea in course of transit. all.—Editor The Sportsman.] To the Editor of "The Sportsman."

Sir,-The report in your paper referring to the appalling loss of horseflesh between the time of purchase and coming into use for the purpose for which they were purchased shows an alarming state of inefficiency and incompetence, and reveals the Remount Department in its true light and the Veterinary Department with little

or no voice in the selection of horses. The expert buyers are selected by the Remount Department from the old cavalry or gunner officer who at some time of his career has owned two or three horses, and who in consequence "knows as much about a horse as any man breathing." The veterinary officer who attends these purchasing boards are usually very small fry to the retired cavalry colonel, who usually ignores them—unless to shift responsibility. The veterinary officer has to take a back seat during the whole of his career, and is placed in a very difficult position at a purchasing board to assert himself against the other members of the board, who are very assertive as to

The real trouble lies in the Remount Department and the Veterinary Department being two Departments and not one, and the unprofessional man of high rank overriding the opinion of the expert, as happens in most

knowledge and rank.

Why should not the Army form its own Veterinary College and train men for regimental veterinary officers as in all other departments of the Army? The present veterinary officer devotes a lot of the four years at college to studying other animals than the horse, which could be well cut out. Two years study would be ample to train a veterinary surgeon, and under those conditions it would attract the same men as the Regular forces and give them the prestige and the same advantages as the Remount officer now enjoys.-Yours, etc.,

AN OLD VETERINARY OFFICER.

CORRESPONDENCE.

SWINE FEVER.

Sir,—It occurs to me that the present method adopted by the lay inspectors of the Board does not obtain all the facts. Rarely have I been interviewed when I have been connected with a case; though on occasions it might be

mutually advantageous to us both.

The following will explain. Let A, B, C, D, represent four farms, or places where pigs are kept. C seeks my advice respecting his pigs. I advise that they should be reported as "suspected swine fever." This is done, and the disease is confirmed by the Board. An Inspector of the Board now comes upon the scene and tries to trace out the history. He finds that C bought his pigs from B and that B bought his pigs from A. Many months have intervened between the sale at A and the swine fever at C, but he finds that A before the sale had a pig die. He questions the owner as to this dead pig and is told that he called in his veterinary surgeon, who made a post-mortem examination and said all was right, and that the pig could be buried. (Had I been interviewed he would have been told that I had never seen the pig either dead or alive, but that I did know that a pig with a "non-fever" history had died).

I have little doubt that if one could read the Board's

history as recorded it would be found that C got his trouble from A, and that I post-mortemed, missed, and buried a "swine fever" pig.

Although I never saw A's pig I believe the true history

of the case is this:

Some months before the trouble occurred at C, a pig belonging to D visited C premises. This pig came home and after a few weeks died; other pigs on the premises afterwards also died of "confirmed" swine fever. Having

said so much I can now be brief. The history should, I think, be written thus:—C gave it to D, also to B. There is, of course, the possibility of D having taken it to C, and the history would then be: D, C, B. But in any event A is out of it.

In this case co-operation with the veterinary surgeon is

conspicuous by its absence. My card is enclosed.

COUNTRY PRACTITIONER.

LAMENESS AFTER THE MALLEIN TEST.

Dear Sir,-Referring to the note by M. Fayet on this subject. in your issue of July 21, p. 27: I have found that lameness in the foreleg on the side of the injection of mallein-especially when low down, is not a constant symptom of Glanders, but is very frequently observed in severe cases, together with a marked constitutional disturbance from the twelfth hour; these confirm the test and are very satisfactory.

CHARLES MORGAN, M.R.C.V.S., Veterinary Inspector, Wingham Division.

PROMOTION OF TERRITORIAL V.O.

Sir,-First let me state that I am not writing to complain of the treatment of Territorial officers, as so much has been said on this subject already, and in comparison to other professional men who have thrown up good appointments to "do their bit," I think we really have little to complain of, and it always makes me think of the parable of the labourers in the vineyard. What I wish to ask is to do with promotion. I had three examinations to pass respectively at Woolwich, Aldershot, and Dover, all entailing a certain amount of work and expense, before qualifying for my captaincy, besides having to wait five years before obtaining that rank. Now, I believe, this rank is conferred on men with only one year's service, and without examina-tion or annual training. Will this difference (viz., four years) go to our credit in obtaining our majority?

Please excuse scrawl, but am writing from hospital after

being wounded on the 10th of last month. 7th August.

ENQUIRER.

DRESS DISTINCTIONS OF VETERINARY OFFICERS.

Sir,-Up to the time that the khaki service jacket superseded the old blue service jacket, the monotony of the one colour was, in the case of the Army Veterinary Corps, relieved by maroon facings, which at the same time served as a means of readily distinguishing the Corps from other and combatant units. At the present time, in all Armies but our own, the Veterinary Officer has a distinctive mark that distinguishes him from others. I will take two cases —French and German. In the former the rank badges are in silver; in the latter, red edges to the black collar patch.

At the present time, various distinctions have been made to distinguish various departments. For example, the Recruiting Department wear dark green gorget patches in lieu of collar badges, and a green band round the hat under

the badge.

As our facings are traditionally maroon, why do not Veterinary Officers wear gorget patches of this colour, and a similar coloured band under the badge on the hat? scarcely likely that this colour would be confused with the red of the Staff, but other colours could be chosen: for example, dark orange gorget patches with a line of black gimp, and an orange band round hat under badge.

Besides breaking the monotony of the all khaki, it would clearly distinguish Veterinary Officers from others. Perhaps other correspondents may care to give their views on the

subject .- I am, yours faithfully,

" CURIOUS."

Communications for the Editors to be addressed 20 Fulham Road, London, S.W. 3

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1519

AUGUST 18, 1917.

VOL. XXX.

DRUGS AND THERAPEUTICS.

Camphor is not a classic remedy for tetanus; but with success, and to-day Mr. Wm. Collinson publishes a useful note of its trial in England. His experience certainly does not seem discouraging. Two of his four cases recovered; and the two failures were both unpromising subjects—one from youth, the other from temperament. On the whole, the report distinctly suggests that the treatment is worth a more extended trial.

Camphor is an old drug; but for many years past it has not been very much used in this country. Recently it has given very good results in America in equine "shipping fever"; but, speaking generally, neither American nor English practitioners rely upon it to the extent that Continental ones do. The latter, on the other hand, employ it largely; and in no country is it in higher favour than in Germany. It is generally credited with a considerable variety of therapeutic actions; and consequently the indications for its use cover a wide range of diseases. Any good text-book will impart these, but a great many of our members have had little experience of testing them. The drug may or there is good reason to believe that it might well before and owner thought horse had hurt her back. be more frequently used in England.

instructive to notice how drugs which have fallen out of favour or never gained it in one country are a good drinking trough in the field highly esteemed in others. Antimony is a more striking example of this than camphor. Antimony was once one of the sheet-anchors of equine practice in England; but we use it very little in that German veterinarians still use it field to-day. largely for horses, both as a general and circulatory depressant and expectorant, and as an anthelmintic. Considering the deservedly high reputation of German veterinary science and practice, this fact certainly suggests that, though we may once have rated antimony too highly in England, we have now gone too far in the other direction.

To follow the fashion, and often to run to excess in doing so, is a human weakness which is nowhere better exemplified than in connection with drugs and therapeutics. When the clinicians of a nation ing piston very slowly there was very little acceleronce begin, perhaps not altogether without cause, to lose some of their old faith in a drug or treatment, they are very apt to run on into an unjust neglect of it. The fact that the clinicians of another equally enlightened nation still hold to the old favourite may help to correct the mistake.

CAMPHOR IN TREATMENT OF TETANUS.

In The Record for May 12, there was an article two Continental veterinarians have recently used it |re| subcutaneous and intravenous injections of Camphor in the treatment of Tetanus. I have since had an opportunity of trying it in four cases, and thought a few notes thereon might be accept-

> Case I. May 24. Shire filly foal nine weeks old. Well marked tetanic symptoms; down, but could rise with assistance, would suck but did not appear to be able to swallow, and most, if not all the milk came out of sides of mouth.

> Gave intravenously 5 c.c. Camphorated æther and 20 c.c. Camphorated oil, 9 a.m., and repeated

> May 25. No improvement. Foal down, and all

four legs like props.

Intravenous 10 c.c. Camph. æther, gave this very slowly and foal seemed to be standing it well, but about two minutes after injection he whinnied and died.

Could find no wound, so concluded infection was through navel, although this had healed and skinned over.

Case II. June 12. Shire mare, nine years old, may not deserve all its Continental reputation; but 17 hands. This mare had been served two days

e more frequently used in England. Well marked tetanic symptoms. This mare was It is always interesting and may sometimes be in field, so decided to treat her there. Had a manger fixed at a convenient height, and there was

> Intravenous 5 c.c. Camph. æther; June 13.

hypo. 50 c.c. Camph. oil.

June 14. Intravenous 10 c.c. Camph. æther; hypo. 70 c.c. Camph. oil.

June 16, 17, 18. Intravenous 15 c.c. Camph. æther; hypo. 70 c.c. Camph. oil, each day.

June 19. Intravenous 20 c.c. Camph. æther; hypo. 70 c.c. Camph. oil.

June 22. Intravenous 25 c.c. Camph. æther;

hypo. 70 c.c. Camph. oil.

This mare made a good recovery, and about second week in July I went to see her in the field but could not catch her; think she thought I was coming with the needle again. I found that by using an ordinary hypodermic needle and depress-

On the 22nd, when I gave 25 c.c. the mare ran back and fell down, having rather a severe tetanic spasm, as well as accelerated breathing. We let her lay about ten minutes, when she got up on her own account, one man at head and another lifting

at tail.

In this case there was a lot of swelling on both shoulders and sides of neck at seat of hypodermic injections, which did not pass away until end of July. This I attribute to using ordinary Camphorated oil (unsterilised). I used sterilised oil afterwards in other cases, and found swellings soon dis-

This mare received 3ss Chl. hydrate three time a day on food. In my opinion this is a useful adjunct to any treatment, as it appears to allay a lot of the nervousness and allows you to handle your patient with greater comfort to all concerned. Gathered nail hind foot was point of infection in this case.

Case III. June 27. Three-year-old half-legged mare, just broken, and a very nervous sort.

Lame, and on examining foot found sharp piece of wood wedged tightly in frog-had to use pincers to extract it. Cauterised, and applied antiseptic poultice.

This filly showed well marked tetanic symptoms. As the field was a long way from house decided to keep her in loose box where she was.

9.30 a.m. Intravenous 15 c.c. Camph. æther; hypo. 50 c.c. Camph. oil.

9.30 p.m. Repeated injections.

This mare became very excitable after both injections, so gave intravenous 3ss Chl. hydrate, which quietened her first time but took no effect second time; mare continued to plunge and rock about in slings. She died about 7 a.m. on 28th.

Case IV. July 5. Four-year-old Shire colt. Cut on near hind by barbed wire. Well marked tetanic symptoms.

Intravenous 10 c.c. Camph. æther; hypo. 70 c.c. Camph. Oil.

July 6, 7. Repeated injections. July 8. Horse down in box, sling.

Intravenous 15 c.c. Camph. æther; hypo. 70 c.c. Camph. oil.

July 9. Intravenous 10 c.c. Camph. æther; hypo. 76 c.c. Camph. oil.

July 10, 11, 12. Intravenous 50 c.c. Camph. æther; hypo. 70 c.c. Camph. oil, each day.

July 13th. Owner had horse out of slings exercising and got him down in yard; had to sling in shed, where he remained until recovered. Intravenous 20 c.c. Camph. æther.

July 15. Repeated injection.

This horse varied a good deal, sometimes there was marked acceleration of breathing even after 5 c.c. had been given intravenously, but by waiting a short time and injecting very slowly, I found I could administer the larger doses without inconvenience. I did not find the marked and rapid improvement mentioned by Poret and Lecufer, but the cases were a long way from my surgery, so I was only able to give one injection daily.

This animal received zii Chl. hydrate daily in food, 3ss in each feed. Mag. sulph. was given two or three times each day, ziv, in drinking water until

bowels acted well.

In no case was there any swelling of vein. I made injections on alternate sides each time.

WM. COLLINSON.

ABSTRACTS FROM FOREIGN JOURNALS.

THE SERUM OF LECLAINCHE AND VALLÉE IN VETERINARY PRACTICE.

The polyvalent serum of Leclainche and Vallée, which has been successful in human medicine, is also systematically employed in veterinary practice. For some time past the veterinary services of the French army have received supplies of this serum.

Leclainche and Vallée, in La Revue générale de Médecine Vétérinaire of this year, give an account of its use in which one point deserves attention. It should not be forgotten that the polyvalent serotherapy is specific, and that the serum only operates against infections corresponding to its valencies. As the serum of Leclainche and Vallée is prepared by the immunisation of the horse against the pyogenic organisms most commonly observed, it should be reserved for the treatment of local or general troubles caused by streptococci, staphylococci, the septic vibrion, and the bacillus perfringens, which are utilised in its preparation. In the treatment of lesions due to other pathogenic agents, the serum has no more than an indirect operation, which may be either its physiological qualities, or its specific action on the pyogenic organisms associated with the specific organisms of the lesions.

The employment of the serum excludes that of antiseptics. Contact of the serum with the anatomical elements is necessary; and with this object, before applying the serum the wound should be well cleansed with boiled water, preferably contain-

inp 9 per cent. of salt.

A. Guillaume and G. Bittner have used the serum with success in veterinary work, and publish, also in the above-named journal, their experience of it. They find that in the treatment of seriously infected wounds, treatment by chemical antiseptics does not always give the good results that are expected, and the specific serum-treatment of wounds appears to be a method much more efficacious, much more rapid, and much more certain. They have employed the serum in the treatment of numerous wounds of all kinds—including wounds of the withers, ribs, shoulder, sternum, etc.—some caused by harness and others by firearms. Their experience has shown them certain therapeutic effects of the serum, notable for constancy and for rapidity of appearance.

The immediate effects are summarised as follows. The inflammatory symptoms, which are sometimes alarming, soon subside. Pain becomes lessened, and the freedom of the movements returns. Swellings, and inflammations of the lymphatics, disappear. The pus becomes less abundant and inodorous, is soon poor in formed elements, and afterwards is replaced by a rosy serosity which coagulates upon the edges of the wound. Lastly, there is a return to the normal temperature and to euphoria.

The nature of these primary phenomena renders them attributable to the antiseptic power of the polyvalent serum. The authors attribute the reparatory action which accompanies and follows the resolution of the inflammatory lesions to the same power. This action is first manifested by the appearance of a characteristic granulation, regularly fine and dense, over the whole of the surface of the This granulation causes a rapidity of repair which surprised the authors in their first | 24 to 25 per cent. of filicin is now being manufacobservations, and which ends in an irreproachable final cicatrisation unaccompanied by deformity.— (Revista de Higiene y Sanidad Pecuarias).

OIL OF MALE FERN IN DISTOMATOSIS.

Prof. Moussu has recently made a communication to the Central Society of Veterinary Medicine upon this subject. Some time ago, in collaboration with Henry and Railliet, he showed that the aqueous cachexia caused by distomatosis, which was considered as therapeutically incurable, may be rapidly cured by treatment with a standardised ethereal extract of male fern, containing a minimum of 15 per cent. of the active principles, administered in fixed doses and for a fixed time. Five grammes per day, in from 20 to 30 grammes of oil, are given for five consecutive days to a sheep weighing 30 kilogrammes (= about 66 lb.).

This treatment, when applied under the conditions indicated by Moussu and his collaborators, has constantly proved efficacious both in France and elsewhere. The Germans have brought out a pharmaceutical product called "fasciolina" which is really the same as that advised by Moussu, Henry, and Railliet, though the latter workers are not sure that it exactly corresponds to their directions.

Prof. Marek, of Budapest, has tried "fasciolina," but has not obtained entirely satisfactory results. He says that kamala, administered up to the quantity of 15 grammes, administered in one or two doses in the twenty-four hours according to the strength of the patients, has given him better results and had improved the least, with the object of disthan "fasciolina."

comparative study of the effects of ethereal extract of male fern and those of kamala. The war has tity of clear and transparent serosity. The liver, rendered these studies difficult; and hitherto instead of being pale and "cooked" in aspect, as Moussu has only been able to make the trial upon those of the other sheep had been, was almost four sheep affected with distomatosis. Two of normal in colour. Neither the liver nor the gall these were treated with othereal extract of male bladder contained a single distome; and there were fern and the other two with kamala. One sheep of no traces of the parasites in the intestine. The each group was slaughtered, and the others were only sequel of the presence of the parasites was kept alive for further studies.

The sheep treated with ethereal extract of male fern standardised to 15 per cent. only received four doses of the drug; but post-mortem examination y Sanulad Veterinaria). showed that all the flukes in the ductus choledochus and gall bladder were dead without exception. On the other hand, in the sheep treated with kamala, which was slaughtered three days after treatment, almost all the flukes were alive and some only appeared to be weakened.

Although since this another experiment has been made with an analogous result, Moussu does not positively conclude on the inefficacy of kamala. He hopes for more definite results, and he suspects that the kamala he used was not standardised.

The principal drawback of medicines the active lines on which compensation should be paid if the State principles of which are ill-defined or not standard-ised is the uncertainty of their results. Moussu requirement of proof that (a) the purchase of the animal

therefore advises the use of the ethereal extract of male fern; for when this is well standardised it is a true specific against distomatosis.

A more potent extract of male fern, containing tured. Moussu and Railliet propose to try this, and believe that with it they will succeed in ridding the patients of flukes with only two or three doses of the medicament, and perhaps even with only one dose. At present, they are convinced that the mortality from distomatosis can be arrested by the timely use of the specific drug.—(Revista de Higiene y Sanidad Pecuarias).

Prof. Garcia è Izcara, having tested the effects of ethereal extract of male fern in distomatosis, has recorded the result in El Pecuario Espanol. Thirteen sheep affected, some severely, were taken for treatment; but in two the disease was so far advanced that they died before undergoing any medication. Post-mortem of these animals revealed many distomes in the liver, and abundant red serosity in the abdominal and thoracic cavities. Another sheep died on the first day of treatment, and post-mortem lesions identical with those of the two first ones, were found to exist.

The dose given was 5 grammes of the ethereal extract of male fern mixed with 25 grammes of oil. This was repeated for five consecutive mornings, the animals being fasted. The dose was administered by the stomach tube and funnel.

Although five of the remaining animals were severely affected, none died during the treatment. On the contrary, they appeared to be more lively. Ten days after the last day of treatment, the author slaughtered the sheep which was of worst aspect covering the condition of the parasites and of the Moussu and Railliet have therefore projected a lesions they had caused. To his great surprise, on opening the abdomen, he only found a small quansclerosis of the bile ducts. The remaining sheep appeared to be cured; and the author is convinced of the efficacy of the remedy.—(Revista de Higiene

MEAT INSPECTION.

By WILLIAM J. HOWARTH, M.D. Manch., D.P.H., Medical Officer of Health, City of London.

(Continued from page 66.)

In 1904 a Select Committee was appointed to consider the Tuberculosis (Animal) Compensation Bill and in their report attention was directed to the loss which butchers sustain from the seizure of home bred pigs

was made in good faith as to fitness for human consumption; (b) there was no proof of illness at the time of purchase; (c) a fair price had been paid; and (d) notification was made to the local authority as soon as the butcher discovered that he had a tuberculous car-

case on his premises.

It is highly improbable that the State will ever agree to give compensation in these cases as no adequate return would result in the way of eradication of the disease. The condition is, however, so prevalent that the risk may seriously handicap some traders, and although compensation by mutual agreement would appear to present a solution of the difficulty, the differences in the standard of inspection are so great that a general arrangement appears at the present time to be almost impracticable. It is obvious that in a well-inspected district a trader would be paid more out of the funds than one in a less inspected district, and so there would result inequality on a basis of equal contributions. Contributions on a differential basis could not be arranged. If a system of meat inspection existed which gave more uniform results, butchers might, in addition to mutual insurance, demand to buy under a guarantee. This would result in cattle-breeders being more careful, and in all-round improvement as regards stock. At present the cattle-dealer is able to sell to a butcher trading in an ill-inspected district without such guarantee, and there is no reason why he should sell to one in a betterinspected district without such guarantee, and accept risks which would involve him in monetary loss.

FACILITIES FOR INSPECTION.

Private slaughter-houses have always been regarded unfavourably by those engaged in sanitary work, and attempts have been made to effect improvement, but only with partial success. There exist outside the metropolis the following classes :-

(a) Slaughter-houses in rural districts which are un-

licensed and practically uncontrolled.

(b) Slaughter-houses which existed prior to 1875 which were registered with all their defects as regards structure, situation, etc., and which possibly can only be dealt with when nuisance arises, though as regards general management and control they must conform to the bylaws in force in the district.

(c) Slaughter-houses to which a licence was granted between 1875 and 1890, the date of the Public Health Acts (Amendment) Act. To these places was granted a non-terminable licence, and defects are not remedied

without some difficulty, and

(d) Slaughter-houses licensed subsequently to 1890, in which case the licence is granted for a fixed period, and if at the termination of the period conditions are not satisfactory, renewal may be refused until improve-

ments are effected.

In well-built slaughter-houses difficulties arise owing to the fact that the places are often widely separated, and an inspector loses time and fails to maintain oversight by having to journey from one place to This fact was clearly shown by Dr. Brindley, of Bury. During the year 1898-99 the meat inspector paid 5026 visits to the 37 slaughter-houses and yet only succeeded in examining 59 per cent. of the cattle, 29 per cent. of the calves, 19 per cent. of the sheep, and lambs and 54 per cent. of the pigs. This compares with an inspection of 99 per cent. of all animals slaughtered in the town after the establishment of the public abattoirs. It is further of importance to note that although the number of animals slaughtered in the town remained practically the same, double the number of organs was condemned, and the amount of meat destroyed was three time that during the time inspection was conducted in detached slaughter-houses.

Internal conveniences such as light, room, and benches

when a carcase is put aside is set for further examination accidents result in its removal, or the offal which it is often necessary shall be examined with a carcase may easily be confused, or wilful substitution may be attempted if the inspector is not present at the time of dressing the carcase; in fact, the last point to be con-sidered in a private slaughter-house is the convenience of inspection.

As against these objections, there can be no doubt that a slaughter-house adjoining a butcher's premises is an advantage. It must be a great convenience to be able to slaughter and retain the carcases on the premises until required for sale. Supervision of the general conduct of employees more easily maintained than if they worked a distant abattoir. It is also suggested that the conveyance of carcases from the place of slaughter to business premises results in more or less injury, but the importance of the objection may easily be exaggerated. All imported meat is subjected to much more handling than is home-killed, and at many of the large wholesale markets all meat there deposited for sale is conveyed both to and from in the carcase form. Financial considerations are sometimes mentioned, since slaughter in public places is always subject to a charge, which is not the case when a butcher has a slaughterhouse attached to his shop, and if he were compelled to cease slaughtering possibly there would not be an equivalent reduction in rent.

These more or less personal objections ought not to invalidate alternative methods which are designed more completely to safeguard the interests of the public, but in some instances a good claim can doubtless be made for compensation in the event of compulsory closures when

a public abattoir is established.

It hardly seems possible to reconcile these widely divergent views of the sanitary authority and the trade, and there seems no possibility in the near future of public slaughter-houses replacing private places. On the continent public slaughter-houses have followed State regulations requiring, inter alia, that the carcases of animals intended for human consumption shall be inspected. It follows that if it is necessary for animals to be inspected they shall be marked in some dis-tinctive manner after they have been passed, and as this work can best be done in public places the person slaughtering in a private place is handicapped, since he must wait the convenience of the official inspector before he can remove the carcases. I believe, therefore, that abattors would be required by the trade if some system of marking, based on official regulations, could be established.

THE MARKING OF MEAT.

Some 17 or 18 years ago the question of marking meat was under consideration in a fairly acute form owing to the development of the imported meat trade. In the earlier days much poor quality meat was exported to this country, and then, as now, much inferior home-killed meat was sold. This latter was occasionally sold

The marking of imported meat by means of an "Official Certificate," which is limited to the flesh of the pig, became part of the legal machinery as a consequence of the Foreign Meat Regulations, 1907, but otherwise the marking of meat is no part of our own

official requirements.

In the cities of Belfast and Exeter and the Burgh of Hamilton the marking of meat is being undertaken as the butchers and the local authority. The chief danger to be apprehended from the general extension of similar arrangements is that each district will arrange its own standard, and as this may vary, uniformity will not be obtained. For this reason also the mark may not be for the careful examination of organs are meagre, and accepted generally as proof of adequate inspection, and

which have approved the system.

It has been suggested that central clearing-houses would prove a suitable middle course between inspection at the time of slaughter and inspection in shops. True, such a provision would be valuable if the offal were brought to the central station still attached to the carcases, as is required in many continental cities, but otherwise there would practically be no difference between the inspection at a clearing-house and that at a wholesale market. To agree to mark carcases in these latter circumstances would be a retrograde step, as the examination would be often unreliable and the hurry and stress of obtaining release from a busy clearinghouse would result in ineffective examination even with

the provision of a large number of inspectors.

It is quite obvious that the introduction of meatmarking would alter the fundamental principles of responsibility which attach to the present system—i.e., from the standpoint of diseased conditions. At the present time the butcher is responsible for the soundness of the meat he sells, and the inspection is a sort of detective method which attempts to discover him in default, and often no excuse is accepted for the difficulties associated with the case. This responsibility is one which should devolve upon the inspector, who should examine each carcase and approve or reject it. Having approved it an owner ought to be absolved from blame if disease is discovered at a later stage, say, when cutting up a carcase. Now, unless meat is marked after an inspection carried out in circumstances which admit of all evidence of soundness or disease being available, and that is not possible in a wholesale market, the mark would involve the inspector in responsibilities beyond what the circumstances justify. There would be an increasing tendency to this end, for persons of doubtful integrity might prefer to submit diseased carcases to this central inspection rather than to slaughter-house

inspection, and thus gain a possible advantage.

I am satisfied that the present want of uniformity, the scarcity of competent inspectors, and the absence of facilities would render a universal system of compulsory meat marking impracticable at the present time, but nevertheless I consider that the advantages to be derived are so considerable that a system on an adoptive basis under Government control would prove of value him."] and lead to the adoption of a general system in the

future.

Suggested scheme. I suggest that it would be a desirable step for the Local Govertment Board officially to approve a system of meat marking, and for that purpose decide upon the nature of the mark and the manner of marking, and also take steps to safeguard the use of the mark only by the recognised authority. The use of the mark should be limited to carcases examined at the

time of slaughter.

The power to use such mark should only be granted on request and after the Local Government Board are satisfied that the local authority making the request may reasonably be expected to maintain satisfactory inspection of meat. Such permission should have regard to the number of inspectors employed, their competency to carry out the work, and the facilities which are available. Powers should likewise be granted to make a charge for this service, a maximum being stated. If this charge is allowed it should be within the power of any butcher slaughtering within the district of an authority empowered to mark meat to require the local mals slaughtered by him if he enters into an arrangement with the authority and pays for the services thus rendered. It is probable that in districts provided with public health departments to appoint a veterinary public health departments to appoint a veterinary officer. When the new milk legislation comes into authority to examine and mark the carcases of all anibut in large urban districts unprovided with a public operation the scope of the vertical abattoir an addition to the inspectorial staff might be connexion will be increased.

the only satisfied parties will be those in the district required, and the charge would help to cover the cost of the extra help if the increased advantages to the public were not regarded as an inadequate return. In most rural-districts more or less concentration would be necessary, and if this did not exist marking would not be practicable. This would be a fairly general condition of affairs at first, but I am of opinion that if the public is educated to appreciate the value of marked meat an increased demand would arise for it, with perhaps a slight increase in value, and in both rural districts and those urban districts with numerous scattered private slaughter-houses the butchers themselves would ultimately ask that public abattoirs be provided to enable the local authorities to carry out the additional inspection which marking would entail.

Power should be granted to authorities who have been given permission to mark meat to require, in the case of prepared foods used for human consumption in such area, that only marked carcases shall be used for that

REGULATIONS AS AFFECTING MEAT INSPECTION.

Very little progress in meat inspection can be expected until official regulations to control the work have been issued. Among other matters a complete series would provide for (a) the manner of conducting both ante-mortem and post-mortem inspections, (b) instructions as to action to be taken if unsoundness is discovered, (c) suggestions for the disposal of unsound carcases, (d) requirements as to sanitation, provision for enabling inspections to be carried out, and qualifications of inspectors, (e) regulations respecting the hours of slaughtering in places where control can be arranged, and (/) the requirements to be observed before a carcase is marked, if "marking" is officially approved.

In the first place, inspection—as far as may be practicable—of all meat intended for human consumption should be a compulsory duty imposed on urban sanitary

[Existing requirements are quoted and Dr. Howarth remarks:—"It appears to me that this instruction is of such a general character that the performance of a minimum amount of supervision or inspection of meat would exculpate an inspector from any charge of apathy in this connexion which might be brought against

In rural districts it should be a requirement that at least those slaughter-houses in which animals are slaughtered for consumption outside the sanitary area in which the place is situate should be licensed, and that regular inspection of animals slaughtered therein should be practised. With the development of a system of marking it would be possible at a later date to require that the carcases of animals should have been inspected and marked before being transferred.

It is also essential that men engaged on meat inspection work should be competent for the purpose. It would appear that any development in this direction would require that there should be two grades of inspectors—niz, an expert officer who would not only appreciate the reason for any particular regulation, but who would be capable of forming a judgment on conditions not specially provided for, and a second group who would correspond to the lay inspectors of foreign countries. These would require to be able to recognise diseased conditions and be competent to decide in certain cases, and recognise that in others the opinion of one more skilled is necessary. Sanitary inspectors, provided they have undergone a special training, might be operation the scope of the veterinary profession in this

Proper supervision would not appear, therefore, to require that all local authorities should have on their staffs inspectors competent to undertake ordinary routine inspection—this could be made a requirement as future vacancies arose—and that county councils should arrange that the rural areas and smaller urban areas should have available the services of their veterinary inspectors for expert decision in cases where doubt exists or where support in probable legal proceedings is necessary, or even for general supervisory work. In the matter of competence, the ordinary veterinary surgeon and the general medical practitioner are not necessarily experts, both, however, have the necessary fundamental knowledge, and given special instruction and a certain amount of experience, each should be able to acquire rapidly the necessary skill.

(To be continued.)

Swine fever-Claim for damage.

Before His Honour Judge Mackarness at the Redhill County Court, Mrs. Holder, of Dean Farm, Horley, brought an action to recover, from John Gardener, of Wyatt's Farm, Horley, £66, the price of pigs sold. There was a counter claim by the defendant for £118 for misrepresentation in respect of the pigs. On March 16, plaintiff's husband, who was managing the farm, wrote to defendant that he had some "nice young sows and a fine lot" for sale. Mr. Gardener, a London caterer, and a farmer as well, saw the pigs, and agreed to purchase them for £66. The animals were conveyed to Wyatt's farm. On arrival, defendant's manager thought the sow was not looking well, and advised that the sow and litter should be returned to Dean Farm. This was done, and within a few days it was found that the sow was suffering from swine fever, and other animals be-coming infected, they either died or had to be destroyed. The authorities duly inspected the farm, and the area was declared an infected one. In the meantime, the pigs of Wyatt's Farm fell ill. It was alleged that on the day after the delivery of some of the pigs from Dean Farm, they became sick, and within a few days all of them were dead. As a precautionary measure, 41 other pigs on the farm were killed. Hence the counter claim by the defendant, who alleged that he had been induced to buy the pigs on the false representation of the plaintiff's husband.

It was held by His Honour that the pigs were sold without any fraud or misrepresentation. He gave judgment for the plaintiff on the original claim for £66, less £14, the value of the sow and litter, and also on the

counter claim.

Age of a cow-misdescription.

At Ashbourne County Court, a claim for £20 was made by the executors of John Dakin, deceased, against Jonathan Salt, farmer, of Cold Eaton, Parwich, in respect of a cheque drawn by the defendant, payable to one of the plaintiffs, but which he had subsequently stopped. It was stated that on June 19th the defendant purchased from the plaintiffs a black cow and calf, plaintiffs representing that the cow was four years old, and that this was its second calf. Defendant was unable to examine the cow closely at the time of the purchase, as it was in a field and was rather wild. He paid £35 for the animals, £15 of which was in cash, and a cheque for £20. On the following day, on getting it to his farm he was able to examine it more closely, and from the condition of its teeth concluded that it must be considerably more than four years old. He also noticed that its horns had been scraped, either with glass or sandpaper, with the object of eliminating the wrinkles which denote a cow's age. He immediately

wrote to plaintiff, and told him the cow must be nine or ten years old, and that he had stopped payment of the cheque for £20. He subsequent sold the cow and calf in the auction ring for £25 10s. 3d., and he then sent plaintiffs £10 10s., which represented the difference between what he sold the animals for and the £15 cash he had already paid.

Mr. Prince, veterinary surgeon, said the cow was considerably over four years of age, but he was unable to say what age she was as the horns had been scraped

quite recently.

After hearing evidence for plaintiffs, Judge Alan Macpherson said it was very unlikely that the defendant should tamper with the horns of the cow when it was his own, but he could better understand this being done by those who sold it, and he was of opinion that this piece of chicanery had been done before it left the possession of the plaintiffs. Judgment was given for defendant with costs.

ARMY VETERINARY SERVICE.

Extracts from London Gazette,

Windsor Castle, Aug. 15.
The following Officers had the honour of being received by His Majesty, when The King invested them with the Insignia of Companions of the Orders to which they have been admitted:—

THE DISTINGUISHED SERVICE ORDER.

Major Robert Stordy, Army Veterinary Corps. Major William Walker, Army Veterinary Corps.

War Office, Aug. 15.
The Secretary of State for War has received the following list of names of officers and men whose services have been brought to notice by Lieut.-General Sir Stanley Maude, K.C.B., Commander-in-Chief, Mesopotamia Expeditionary Force, as deserving of special mention:—

STAFF AND HEAD QUARTERS.

Lt.-Col. (temp. Col.) W. D. Smith, D.S.O., A.V.C.

Bt.Lieut.-Col. W. S. Anthony; Capt. R. H. C. Higgins; Temp. Capt. W. H. James; Temp. Capt. W. W. Lang; Capt. E. McK. Nicholl; Capt. T. L. Shea; Capt. (temp. Maj.) E. G. Turner; Capt. G. Williamson; Shoeing-smith (actg. Sgt.) W. A. Armitage, 1065; Cpl. H. Brock, SE/448; Pte. (actg. Sgt.) G. Taylor, SE/2166; Pte. (actg. Sgt.) W. S. Walden, SE/798.

INDIAN ARMY VETERINARY DEPARTMENT.

Ind. Subdte. Vet. Corps.—Farr. Qrmr.-Sgt. S. Coope, 2729; Farr. Staff Sgt. H. Hayes, 16024; Farr. Staff Sgt. S. Nunn, 32970.

Vet. Asst. Abdul Rahman Khan, 1215; Nalband Elahi Bux; Sowar Farr. Hashim Ali Khan, 316; Naik Syce Warden, 61.

WAR OFFICE, WHITEHALL, Aug. 10. REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Qrmr. and Hon. Lieut. S. J. Reimers relinquishes his commn. on account of ill-health, and is granted the hon, rank of Lieut. (Aug. 11).

Maj. A. Olver, C.M.G., F.R.C.V.S., to be actg. Lt.-Col. (July 1).
Temp. Lt. to be temp. Capt.:—J. D. Coutts (July 31).

SPECIAL RESERVE OF OFFICERS.

Aug. 13. To be Capts.: - J. H. M. White, late temp. Capt. Manch. R.; E. Wallace, late temp. Capt., A.S.C., Spec. Res. (Aug. 4).

CANADIAN A.V.C.

Aug. 10. Temp. Lieut. to be temp. Capt. :- R. G. Matthew (Sept. 24, 1916) (substituted for Gazette notification April 16, page 3583, incorrectly describing name as R. G. Matthews).

TERRITORIAL FORCE, ARMY VETERINARY CORPS. Aug. 15. Capts. to be actg. Majors:—F. W. C. Drinkwater, T.F. (June 20); R. W. Williams, T.F. (June 28). To be temp. Lieut.: F. R. Shippard (July 30).

The following casualties are reported:

DIED-Sgt. W. W. Wright, 8169 (Old Kent Rd., S.E.) Pte. (actg. Cpl.) L. Rose, 02463 (Oakham). Pte. A. W. Phillips, 10721 (Pershore).

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:

R. F. Bett, Capt. A.	V.C.				£1	0	0
W. F. L. Bright, Ca	pt. A.v.c.				1	1	0
E. J. Burndred, Ca	pt. A.V.C.				5	0	0
W. T. Edwards, Ne	ath, Glam				1	1	0
R. J. Hickes, Mark	et Weight	on			1	1	0
North Midland Vete	rinary Ass	ociation:	-				
T. C. Fletcher,	Sheffield	1	1	0			
J. S. Lloyd,	,,	1	1	0			
H. Nixon,	"	1	1	0			
S. H. Nixon,	"	1	1	0			
S. E. Sampson,	"	1	1	0			
H. Thompson,	"	1	1	0			
			-	_	6	6	0
W. J. Young, Edinl	ourgh	(1914 to	19	17)	4	4	0

(1914 to 1917) 4 4 W. J. Young, Edinburgh Previously acknowledged

829 13

£848 15

OBITUARY.

ROBERT KERR, M.R.C.V.S., Ballymena, Co. Antrim. H. & A. S., 1868; Edin: Oct. 1879.

Mr. Kerr died 10th August.

GEORGE ROEBUCK, "Existing Practitioner," Holmbridge, Huddersfield.

Died 6th August, aged 69 years.

CORRESPONDENCE.

VETERINARY STUDENTS SERVING A.V.C.

Dear Sir,—I enclose letter from to-day's Daily Chronicle, the arguments of which, I think, are equally applicable to the Veterinary Profession and Veterinary

Students. I think it is time, if the Veterinary Colleges -and through them the Veterinary Profession, are to keep up a steady supply of trained experts for work which is of National importance both for administrative and private purposes, that students who have discontinued their studies at the various colleges to enter the army should be given their discharge from the army on condition that they resume such studies. They are the pick of the 1st and 2nd year students as regards physical fitness, and they are the men wanted in the profession. I know from lifelong experience that C 3 men and conscientious objectors are of no use for it.

Some representation might be made by the Council of the R.C.V.S. to the Board of Agriculture if thought

desirable.—I subscribe myself, Aug. 13.

LOOKING AHEAD.

To the Editor Daily Chronicle.

Sir,-In to-day's Daily Chronicle I read that there are difficulties regarding the supply of doctors for the R.A.M.C.
Why was the supply cut off? Lord Derby in his recruit-

ing campaign decided that all fit medical students, other than fourth or final year men, were required for the army -but "divinty students" were exempted. What happened? The medical students who were fit volunteered in a body, leaving in the universities and hospitals men who were unfit for general service. Some even left hospitals where they had been doing valuable work as "dressers."

Now that the advanced students who were left have qualified, who do we find in their places? Ladies and unfit men, who are certainly unable to perform the hard

work of surgeons at the front.

"Give us doctors," says Mr. Balfour to America, and we are training none ourselves! What folly!

America will soon require all the doctors she can spare.

Common sense ought to tell the authorities that the time has now come to recall all medical students who are serving or have served at the front, replacing them, if need be, with the younger chaplains and divinity students.

BE PREPARED. Aug. 8.

PROMOTION OF TERRITORIAL V.O.

Sir,-Enquirer's remarks on the above subject are really most amusing and not very logical, when one recollects that the pre-war service for Territorials was at the most three weeks a year, and was about as strenuous as that indulged in by the O.T.C.; if as strenuous as that.

So with fifteen weeks service (at three weeks per year for five years) he received a Captaincy. Now the Territorial V.O. has to serve 52 weeks to secure such promotion under

war conditions never before encountered.

As to "Annual Training," I am sure that members of the A.V.C. (T.F.) are all agreed that we have had this with a vengeance since August, 1914, in some cases, and how nonsensical it is, Mr. Editor, to talk about Annual Training nowadays. It is a crime against sanity, to compare prewar conditions, with the present.

I am glad he is satisfied with his pay. No doubt his sole responsibility is himself, or he is one of those fortunate individuals who has his pay brought up to pre-war rates, or

has a private income besides.

I know a case where a Territorial V.O. out of his 15/6 a day has not only to provide for himself, but for his wife as

well, and has to educate two children.

I agree that correspondence on pay matters in the press is rather bad form in these times, but I consider that a person who wrongly gives out the idea that the pay is sufficient, deserves showing up. If for promotion, Territorial or other Veterinary Officers had only to pass practical or other examinations in their art, the grumbles that one Unfortunately, as in other branches, hears would vanish. the promotion depends on length of service, and not on merit. - Yours faithfully, AGRICOLA.

Sir,—With reference to "Enquirer's" letter in your last week's issue, this really strikes one as being very quaint. He quotes the Parable of the Vineyard against others, and then immediately commences to air his own grievance repromotion! Is not this an exact simile to the said parable? Possibly Enquirer is not in the sad position of now being minus a valuable practice and other luxuries!

Officers A.V.C. (T.F.) who offered their services on and after Aug. 5, 1914, and "for their sins" were placed in the T.F., might retaliate that Enquirer joined "with his eyes open" as to remuneration, etc., and had, of necessity, to mobilise on the outbreak of hostilities—he had all the honour and glory of being an officer in the T.F. during normal times, with the enjoyment of possibly three weeks camp life per annum, and knew his risks, and probably like many others, thought these few; but those who left all on the cry for more men expected at least to receive the same treatment as others joining up temporarily in an emergency, and did not expect to suffer because for some reason or other it pleased the Powers that be to place them in the T.F.

The position is this: Many officers joined on and after Aug. 5, 1914—some were given commissions (temporary) in the A.V.C., and others placed in the T.F. at the same rate of pay, and increasing by the same amount on promotion. Later it became necessary to bargain with V.S.—and therefore, all who had been given temporary commissions were given Captaincies after twelve months service (and allowed to resign if they so desired), with the pay of 17/- per day; but the unfortunate ones who had been placed in the T.F. were ignored. After a fight they were given the Captaincy, though not allowed to resign, but were only allowed 15/6 per day; and yet when they joined, in very many cases, they had no idea that they had been placed in the T.F., simply offering their services for the duration of the war, as in the case of the others.

Can this by any stretch of imagination be called fair treatment?

Those who came up in 1914 and early in 1915 did not know the condition of things, but simply offered their services; in some cases they were placed in the T.F., and are penalised accordingly, and they at least might be allowed to transfer to the A.V.C. temporary commissions, and thus receive the same pay as those who joined at the same time and were fortunate enough to be given temporary commissions.

In spite of what Enquirer states—can he point to any other branch of the Corps which is not treated much better in the matter of pay of the them the T.F.?

in the matter of pay, etc., than the T.F.?

The general opinion amongst old and recent officers in the A.V.C. (T.F.) is that their treatment does not bear thinking about.—Yours, etc.

Aug. 15th. ----

OUTFIT ALLOWANCES.

Sir,—I have read in *The Veterinary Record* of April 26th, a letter by "Pro bono publico," in which he states the Territorial V.O. receives £50 outfit allowance.

I joined the Territorials in 1908, and received a grant of £25 for outfit. I attended each year the annual training, also a course at Aldershot, and at the outbreak of war applied for the grant of £50 for uniform, etc. I received a reply stating that having been paid the £20 nothing more was allowed. This I consider rather unfair, inasmuch as I had given my services for six seasons at Camp. Three months ago I obtained leave to England and purchased a new valise-kit, etc. On the return journey we were smashed up in a railway collision and lost everything. I should feel very grateful if anyone would inform me whether I was entitled to the £50, or even to the balance.

Thanking you,—Yours truly,
Salonika Force. May 27.

A.V.C. (T.F.)

SPECTATOR.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

				Anthrax		and-A Dise	Iouth	Glan	ders.†		sitic		Swine	Fever.	
Period	Ont- breaks (a)	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.				
GT. BRITAIN.				1				1				1		İ	
Week ended Aug. 11			. 11	5	6					46	102		26	10	
Corresponding		1916		5	6				2	22	34		52	35	
week in	1	$1915 \\ 1914$	•••	12	7 13			$\frac{1}{2}$	$\frac{1}{2}$	10 8	22 9		65 51	226 670	
Total for 32 weeks, 1	917			318	365			16	28	1801	3545	393	1631	700	
Corresponding	1	1916 1915		353 400	415 458	1	24	34 35	89 64	1642 550	3724 1201	178 159	3094 2812	8474 1258£	
period in 1914				494	535	11	74	70	214	1511	2622	150	2650	28188	

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Aug. 14, 1917

Excluding outbreaks in army horses.

IRELAND. Week ende	d Aug	. 4							Outbreaks 1	1	4	6
	1916				1				1	6	5	45
orresponding Week in -	1915									-1	3	16
	1914		_:::						1	5	4	3
Total for 31 weeks, 1917			3	5			1	1	23	243	160	983
	1916		3	7		1			44	254	199	1160
Corresponding period in	1915		1	1			1	3	44	269	162	910
	1914		1	1	76	957			55	375	142	712

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 4, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1520.

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AUGUST 25, 1917.

VOL. XXX.

RECORDS OF TREATMENTS.

It is frequently observed that for some little time, one particular disease receives more attention than usual in our journals. Recently this has been noticeable both in foreign and English journals concerning the treatment of tetanus, and it may be said that there is hardly any disease concerning which the profession stands in more need of advancement. More than one new suggestion has lately been made; but none have yet reached fur-

ther than the experiment stage.

To-day Mr. Penhale reports a favourable experience of the novel "open-air treatment" recently initiated by Mr. Aveston. The case, like those treated under less favourable conditions by Mr. Aveston, suggests that the treatment deserves further trial; but present records are far too few to justify more than that being said, especially with a of tetanus cases obviously suggest grave objections that very probably the mouth or tongue had been to this new line of treatment; but we might well lacerated in biting. to this new line of treatment; but we might well remember what the orthodoxy of a former generation would have said to our modern treatment of pneumonia. Probably other practitioners will soon be induced to follow the methods of Messrs. Aveston and Penhale; and the reports of their results should be very interesting.

One point in connection with this or any similar subject can hardly be over-emphasised. Failures are quite as important in clinical records as successes; and men who report single cases of a knows that clinicians recording isolated cases of the results of a treatment are much more inclined tion of ten days there was nothing to be seen amiss, to report successful than unsuccessful experiences; but very few realise how much that tendency has

done to render clinical records misleading.

TIN AS A THERAPEUTIC AGENT.

The use of tin and its compounds in medicine will be new to most clinicians; but the note of their successful trial in France which we reprint to-day suggests that tin should prove of considerable use in our work, especially perhaps in canine practice. The anti-staphylococcal action in vitro of tin, and its apparent therapeutic action in human furunculosis, point in this direction; and the importance of furunculi: and that tin-dust is a popular remedy the statement that dogs tolerate the ingestion of tin and absorb it without harm will be clear to every the authors observed that when metallic tin is clinician. Granting these claims, there should be added to a synthetic culture medium supplemented many indications for the veterinary use of tin, one with alcohol, and Mycoderma aceti is sown in this of the most obvious of which is the pustular form medium, the development of the micro-organism is of follicular mange. Gmeiner's view of the etiology not sensibly modified, but the production of acetic of this disease suggests that internal and external acid is limited or ceases entirely. treatment by tin deserves a full trial for it.

OPEN-AIR TREATMENT OF TETANUS IN THE HORSE.

In The Record of June 9th Mr. Aveston reported the successful treatment of three well marked cases in the open field; it struck me as being a very simple and novel procedure, especially at this time of the year when all things are favourable, so decided on the first chance to give it a trial; and on the 15th my opportunity came. A client about eight miles distant sent a message to say that he had a three-year-old cart colt recently taken up from grass, suffering from quinsy or strangles, had difficulty in swallowing, and stiff in all four legs. On arrival I found (as suspected) all the usual premonitory symptoms of tetanus: head protruded, lips drawn, tail elevated, stiff and straddling gait, especially in the hind extremities, and considerable disease so variable in its course and degree of difficulty in masticating. After a careful examina-severity. The orthodox views of the management tion I failed to find any external injury, so thought

I told the owner that I wished in this case to depart from the usual up-to-date methods, and try open-air treatment; he readily consented, and we soon found a suitable field, decently level, and as far away as possible from traffic, or any disturbance whatever; the only medicine left was liq. chloral hyd. to be sprinkled over a little chopped clover twice daily. I called again on the 18th, and was pleasedly surprised to find that all the symptoms at first exhibited had very considerably lessened, special treatment should remember this. Everyone and from a distance it was difficult to see anything wrong. Improvement continued, and at the expira-

and all went well.

Torrington.

R. E. L. PENHALE.

THE ACTION OF METALLIC TIN AND OXIDE OF TIN IN STAPHYLOCOCCAL INFECTIONS.

A. Fromin and R. Grégoire have recently made a communication upon this subject to the French Academy of Sciences. They have based their researches upon the fact that in Beauce, France, the workmen employed at tin-working never have against this affection. On the other hand, one of

The authors have therefore inquired whether tin

is capable of exercising an action in vitro upon the development and the virulence of staphylococci, and have also investigated the eventual therapeutic action of tin.

From this inquiry it results that the addition of protochloride or of oxide of tin or of metallic tin to anarobic broth cultures of staphylococci diminishes the vitality of the culture. If re-sowing is practised every forty-eight hours, only an insignificant development is observed after the third or fourth passage.

In arobic cultures the same phenomenon is seen, and also an attenuation of the virulence of the staphylococcus. The authors proved this attenuation by systematic researches upon rabbits.

The authors then investigated the therapeutic properties of tin and its salts with relation to the staphylococcus. They succeeded in demonstrating that the chloride and the hydrate of tin, dissolved in tartaric acid and injected intravenously twelve hours after the intraperitoneal inoculation of staphylococcus culture, retarded death in rabbits for four, seven, and eight days.

The authors also proved not only that dogs tolerate the ingestion of oxide of tin and of metallic tin without any disturbance, but also that these

substances are absorbed by the organism.

The authors finally summarise their conclusions as follows:

1. Metallic tin and oxide of tin are absorbed by the digestive tract and are innocuous to the organism.

The salts of tin display a therapeutic action in cases of experimental staphylococcæmia.

3. The microbicidal action of these salts and their influence upon the virulence of staphylococci justify the employment of such products in staphylococcal affections.

Upon the basis of fifty personal observations, the authors are able to confirm the efficacy of treatment by tin in furunculosis of man. The administration per os of from 0.5 gramme to 1 gramme of tin, or of a mixture of tin and oxide of tin, has led to the disappearance of all the furunculi in a period of time varying from five to fourteen days, without any recurrence even after six months.—(La Clinica Veterinaria).

Potassium Iodide in the treatment OF EPIZOOTIC LYMPHANGITIS.

Cartier, in Le Recueil de Médecine Vétérinaire, recommends the use of potassium iodide in epizootic lymphangitis. He prefers, instead of injecting solutions of the salt into the veins, to give it by the mouth in rather large doses (from 12 to 20 grammes). Usually the treatment is divided into periods of from twelve to fifteen days, with six or seven days interval between them. The abscesses and nodules are opened and scraped; and the wounds washed with solutions of iodine and potassium iodide. In order to destroy the parasites in situ and to impede their dissemination, the ulcers are covered with a ing a functional obstacle until it was very abundant. powder containing one part of mercuric iodide to sixty of talc.—(La Clinica Veterinaria.)

A CASE OF DYSTOKIA FROM MAL-POSITION OF THE UMBILICAL CORD.

José S. Pedraja records the following unusual case. A she-ass manifested the first symptoms of labour pains at six o'clock one evening; but, after three hours of labour and the rupture of the membranes with the expulsion of their contents, parturition was not accomplished. The pains then sub-

sided, and the animal began to eat.

Pedraja saw her next day, about twenty hours after the first appearance of the pains. He found her in a state of apparent health, but with portions of the ruptured membranes outside the vulva. Exploration showed that the feetus was presented posteriorly in the lumbo-sacral position, and Pedraja could not account for the delay or suspension of parturition. The fœtus was dead, and had commenced to swell, which considerably increased the difficulty of delivery; but this did not explain why parturition had not been accomplished at due time.

Further manual exploration showed that the umbilical cord did not follow the normal direction. It ran backwards from its origin along the median line of the fœtus, passed between the two hind limbs, and turned round the posterior and external part of the left thigh, to be implanted in the inferoposterior portion of the body of the uterus. This, of course, absolutely impeded the progression of the

Pedraja divided the cord, and then proceeded to forced extraction, which, by four men reinforcing vigorous maternal efforts, was successfully performed. The animal was very exhausted for a short time; but she rapidly recovered, and subsequently did well. - (Revista de Higiene y Sanidad Veterinaria).

Cases of this nature are mentioned in obstetrical text-books, but are regarded as rare. When the fœtus is living, it may be possible to disentangle the cord, but there was no object in making the attempt in this case.—Transl.]

INTESTINAL OBSTRUCTION IN A HORSE DUE TO SUB-MUCOUS HEMORRHAGE.

Pagnon, in Le Bulletin de la Société Centrale de Médecine Vétérinaire, has reported the following very unusual case. A horse died after suffering for three days from colic due to intestinal obstruction. There was great sensitiveness in the hypochondriac

region.

The post-mortem lesions were curious and very The floating colon, for a metre of its extent rare. and at its convex curvature, presented an abundant hæmorrhage between the mucous membrane and the muscular coats. The hæmorrhagic clots were raising the mucous membrane to the extent of completely obstructing the lumen of the intestine. This hamorrnage, the cause and precise place of origin of which could not be determined, must have developed slowly for some days without constitut-Both the mucous membrane and the serous membrane were undergoing mortification in some places; and, in consequence of the alteration of the external tunics of the colon, there was a commencement of acute peritonitis. Some ten litres of peritoneal liquid, in which fibrinous "false membranes" were floating, had invaded the abdominal cavity.—
(Revista de Veterinaria Militar.)

W. R. C.

MEAT INSPECTION.

By WILLIAM J. HOWARTH, M.D. Manch., D.P.H., Medical Officer of Health, City of London. (Continued from p. 76.)

REGULATIONS RESPECTING UNSOUND MEAT.

The value to the community of regulations would obviously depend upon the skill of the executive officers, and the energy displayed by local authorities in giving effect to them, but even with the best organisation some unsound meat would escape notice. That this need not be a large proportion is proved by experience in the examination of imported meat.

In practically all meat-exporting countries regulations have been framed to guide inspectors, who generally are appointed by the respective Governments. Regulations exist in Australia, New Zealand, Argentina, the United States of America, Holland, and other places. A considerable amount of carcase meat from these countries passes through London, and at Smithfield Central Market probably more is cut up on a limited area than anywhere else in the world. The cutting-up process brings to light hidden defects, and the experience gained there is of interest.

The amount of tuberculous meat discovered at Smithfield among the South American imported carcases during the four years 1912-15 is set out in Table.

Year.	Tons.	Condemned-tuberculous.									
1912	140,179	43 hindgrs.,	8 foregrs.,	25 pieces.							
1913	154,503	27	10								
1914	143,910	43	11								
1915	92,212	26	5	2 pieces.							

The totals condemned are insignificant and not much exceed what might be expected from ordinary defects of administration. They do not include any meat condemned other than for tuberculosis. That this freedom of the carcases from tuberculosis is not due to absence of disease among the stock will be gathered from the fact that Mr. T. Dunlop Young, reporting on the subject of Argentine meat, as a result of a visit to that country with the authority of the Corporation of London, states that during 1912, of 1,368,000 cattle slaughtered at the frigorificos, and mainly for export, 4 per cent were affected with tuberculosis, a total which would exceed

Some figures are also available respecting Dutch pigs, and though they are incomplete they support the present contention. In a period of nine weeks 43,330 pigs—about one-sixth the total received at Smithfield, were specially reported upon. Among these, 39 carcases were seized. None of these seizures were necessary on account of tuberculosis: nine were rejected on account of decomposition, one for hemorrhagic spots, and 29 for other reasons not associated with disease. Five carcases from this consignment had already been seized at the Port for reasons which could not then be ascertained, but assuming these were on account of disease the total is not large, and tends to prove that inspection carried out on formal lines, though not resulting in absolute perfection, brings about the elimination of much animal food unfit for human consumption.

These results, both as regards the carcases of oxen

These results, both as regards the carcases of oxen and pigs, are much better than would have been ob-

served among an equal number of home-killed animals, and this is due mainly to the differences of inspection and to the greater uniformity of action which follows the discovery of unsoundness where regulations are in force.

Comparative Standards of Inspection.

There are certain marked differences between the regulations of this country and those in operation in other European countries and in the United States. In this country meat is either fit for human consumption or it is not; but on the continent an intermediate grade of non-marketable meat exists, and provision is made for the sale of some of this meat, subject to its being sold under declaration, and either with or without its first having undergone some approved form of treatment. In the larger towns the intermediate grade is sold only after it has been treated by boiling, steaming, the removal of fat and destruction of the rest of the carcase, pickling, or freezing. By this means the flesh of selected animals which have suffered from varying degrees of tuberculosis, swine fever, swine crysipelas, certain febrile conditions, measles, etc., is rendered safe for human consumption.

for human consumption.

In the United States flesh from a tuberculous carcase which is regarded as being affected in a degree intermediate between total condemnation and that which may be regarded as fit for human consumption may be passed for sterilisation after the removal of the affected portions. Meat passed for sterilisation may only be sold for human consumption under declaration. The carcases may be rendered into lard or tallow, or if not so treated may be sterilised and used for food purposes, but presumably only of canned meat, and provided the container is plainly and conspicuously marked so as to show that the product is second-grade class or quality, and has been sterilised. Provision also exists for the use of beef and pork showing a certain degree of measles, and of carcases affected to a minor extent with swine fever.

Consideration would require to be given to decisions necessary in special instances, such as actinomycosis of ox heads, particularly when the tongue is free, and the disease localised and without suppurating fistulous tracts; immaturity in calves; jaundice; new growths; and parturient animals.

THE TUBERCULOSIS PROBLEM.

Tuberculosis is the reason for condemnation of a large proportion of the organs of slaughtered cattle, and it is the chief cause of condemnation of the whole carcases. Out of a total of 68,438 animals slaughtered at Aldgate, the carcases of 341 were totally condemned, and of these the reason was tuberculous affection in 319, or 94 per cent. Among 50,288 calves, 139 carcases were condemned, of which 41, or 30 per cent., were on account of tuberculosis.

A Table shows the high incidence of the disease on cows.

Tuberculosis in any degree. - Aldgate.

	S	laughtered.	Affected.	Percentage.
Bulls		2,565	381	14.9
Cows		4,434	1492	33.7
Heifers		1,079	68	6.1
Oxen		48,953	1872	3.9
Calves		39,333	121	0.31

The degree of affection is shown to some extent by comparing the percentage of total condemnations of carcases to numbers affected with tuberculosis.

Whole carcases.

	Affected.	Condemned.	Percentage.
Adult bovines	3813	319	8.4
Calves	121	41	33.9

Although more fully developed animals were affected isted to interpret them, and the following generalisawith the disease than were calves, the latter presented a higher percentage of dissemination than the former.

The question of satisfactory Regulations.

The guiding principles regarding the action which shall be taken in the case of tuberculous meat are laid down in the recommendations of the Royal Commission. A considerable want of uniformity is, however, observed throughout the country, which is due in great measure to the fact that the recommendations are only suggestive. This divergence of views has been objected to in the past by traders, but has been tolerated. Probably the very low cost of meat has contributed to the tolerance under protest. Indications suggest that possibly the increase in price in recent months will be permanent if only in part. The first result of such increase will be that the condemnation of a carcase will be of greater import financially, and differential treatment will thus have a more marked effect. The increased value of the carcase will also encourage deceit, to meet which more complete arrangements for inspection will be necessary.

The problem of framing entirely satisfactory instrucions in the case of tuberculous meat is not an easy

When an animal has been successfully invaded by the tubercle bacillus two conditions at least result from the development of the disease: the function of the affected organ is diminished in proportion to the extent of the lesion, and the constitution of the animal is prejudiced as a result of the absorption of poisonous products from certain glands cannot be stated with absolute certainty, the lesion gaining access to the blood stream. The extension of infection results in an increase in the severity of symptoms. It is obvious that the animal should be regarded as diseased from the time of infection, and it becomes therefore a matter for consideration whether the flesh of animals so affected shall be prohibited, either because it may transmit the disease to persons partaking of it or because the flesh takes on qualities which may render it of low nutritive value, or because some quality may have been imparted to it, other than that of direct disease transmission, which may prove prejudicial. Even if these possibilities exist it is clear that there are degrees of risk varying between that resulting from the earliest infection to that which follows the more developed and multiple lesions.

The recommendations of the Royal Commission are

as follows:

The entire carcase and all the organs may be seized if :-

Miliary tuberculosis of both lungs.

2. Tuberculous lesions present on both the pleura and peritonium.

- 3. Tuberculous lesions present in the muscular system, or in the lymphatic glands embedded in or between the muscles.
- 4. Tuberculous lesions exist in any part of an emaciated Carcase.

The carcase if otherwise healthy shall not be condemned; but every part of it containing tuberculous lesions shall be seized if:

5. The lesions confined to the lungs and the thoracic lymphatic glands.

6. Lesions confined to the liver.

7. Lesions confined to the pharyngeal lymphatic glands. 8. Lesions confined to any combination of the foregoing, but are collectively small in extent.

In view of the greater tendency to generalisation of tuberculosis in the pig we consider that the presence of tuber-culous deposit in any degree should involve seizure of the whole carcase and of the organs.

Generalisations as to the mode of extension of infection.

Principles would form a better basis of action than detailed statements, provided competent inspectors ex. cussed here.

tions, which have some bearing on the case, may be briefly considered.

Infection may reach the system through the respira-tory or digestive tracts, and less frequently by the generative organs or as a result of inoculation through the skin. Instances of congenital infection are also met

Extension may take place by way of the lymphatic system, or the blood stream, or both. Tuberculous discharges thrown off by the animal from the seat of infection may also infect more distant mucous surfaces, as, for instance, the urinary tract below the kidney from urine secreted by a tuberculous kidney, and the larynx or intestines by infected sputum thrown off from a

tuberculous lung.

In the case of extension along the lymphatics it seems unlikely that much extension, if any, can take place in a direction opposite to that of the lymph-flow, which is from the organ drained to the corresponding gland, and from the gland to the central lymph channels*-the thoracic duct on the left side and the main lymphatic duct on the right side. Infection of healthy glands away from the original infecting lesion may result as a consequence of being placed along the line of lymph-flow and receiving infected lymph. In certain instances it is not always possible to assert confidently that one gland has infected another or that the flow in the smaller lymph-vessels is invariably in one direction. This is due to the fact that the exact area drained by and also that there are most numerous anastomoses between lymph-vessels in fairly well-defined areas.

It follows that one or more glands may be infected from a common source of infection, and no deductions can be drawn with certainty as to the sequence. Fortunately, it is practically never necessary for a meat

inspector to make such a fine distinction.

On the other hand, there are glands respecting which a fairly positive statement may be made that lymph entering them has been received from a well-defined area, and if such a gland shows a tuberculous lesion, that the infection was derived from the area drained. Such glands are those connected with certain organs, particularly the portal gland, the renal gland, and the internal inguinal or supra-mammary gland, according to sex. There are others which receive lymph only from the muscles, bones, and joints of the extremities—e.g., the prescapular, precrural, and the popliteal-and infection of these has a similar definite significance.

The venous blood stream receives infection from infected lymph which enters by way of the thoracic duct or right lymphatic channel, or by the infection gaining direct entrance through the erosion of a vein which has become implicated in a tuberculous process, either

within a gland or otherwise.

In the blood stream the bacilli are conveyed to the lungs (except in the case of the portal system) and from thence may pass into the arterial blood stream to reach other organs. The lungs are most generally affected, and next most frequently the liver. The spleen and kidneys may be affected, but the latter more frequently. The substance of the spleen rarely, if ever, develops lesions in cattle infected after the calf age. Muscular tissue rarely shows lesions, whilst bony structures are much more frequently affected in pigs than in cattle

^{*} Prof. G. H. Wooldridge informs me that, in general, he agrees with the proposition that extention by lymphatics is in the direction of the lymph current, but his observations lead him to believe that in the case of tuberculosis of the udder, the mammary gland may be infected in a backward direction from the supra-mammary glands. The reasons are mainly physical and need not be further dis-

The brain and spinal cord are infected from the blood stream. The reasons for the differences in the glandular structures may be found in the varying amount of blood transmitted to them, differences in the speed of flow, and perhaps the action of the gland contents on the organism.

The blood itself seems able to get rid of organisms or to destroy their pathogenicity in a few days, as has been shown by M Fadyean and others, and in this the filtering action of the various glands assists, but there is also a direct lethal effect, and probably excretion is not a

negligible factor.

The object of Pathological research.

Sir Stewart Stockman, speaking at the Edinburgh Conference of the Highland and Agricultural Society, on 8th inst., said:—"In relation to the study of diseases of stock for the benefit of agriculture, veterinary pathology was the basic and chief thing. It was quite important enough, and its object was important enough, to require that it should be something by itself if material progress was to be made. Their problem was not merely to cure or prevent disease, but to do so on a commercial basis. He did not hold the view that the public purse should bear the whole expense. It would be a pity if an effort was not made to encourage gifts

from private donors.

The problems that remained for solution to-day required laborious and continued research over a number of years. The wisest procedure was to make full use of the veterinary colleges and other existing institutions, and to extend their usefulness. Under any scheme which necessarily involved more than one institution provision was to be made for co-ordination of results. He did not favour the conception of a central institution to deal with everything. In conclusion, he said that the co-operation of stockowners was desirable for the assistance they could give in bringing their difficulties to the notice of research institutions, providing material for investigation, and trying methods of cure and prevention. Stockowners should not hide their troubles. Possibly a joint committee of stockowners and researchers would best meet the case."

THE NECESSITY FOR CO-ORDINATION OF RESEARCH AND EXPERIMENT.

Principal O. CHARNOCK BRADLEY spoke briefly on the need for co-operation, organisation, and co-ordination in their research and experimental work. He was pleased to hear from Sir Stewart Stockman the encouraging report regarding his new laboratory and experiment station at Weybridge, and he expressed the hope that that might prove a step towards the ambition which he cherished. When Sir Stewart's scheme was fully developed, he hoped it would not contain a weak point. The department would grow not alone by the accumula-tion of technical matter. Co-operation and co-ordination of effort with stockowners was an absolute necessity if progress was to be made. What was done was for the benefit of the stockowner, not for the benefit of the research worker. Conservation of the stock of the country was a source of national wealth. Prevention and early diagnosis were two things absolutely necessary to that end. The conservation of stock could be attained by means which did not at first appeal to the stockowner. Could they estimate how much would be saved to this country by the early diagnosis of ordination of effort was absolutely necessary for research after the war. The veterinary research worker and the owner of stock must be brought into the very closest contact." disease? Serum diagnosis was only in its infancy. Co-

Brilliant Green as an Antiseptic.

A note on this subject by Capt. C. H. S. Webb, M.S., F.R.C.S., R.A.M.C., appeared in *The Brit. Med. Jrnl.* of June 30, from it we take the following:—

Since May, 1916, I have been using and observing the effects of a solution of a brilliant green in the treatment of wounds that have passed through my hands at a casualty clearing station. On the whole, I am favourably impressed with the good results obtained from its use.

Investigations by Browning, Gulbransen, Kennaway, and Thornton (B.M.J., Jan. 20, 1917) have shown that concentrations of brilliant green which are highly bactericidal for organisms, such as staphylococci, in the presence of serum, do not interfere with the process of phagocytosis; in this respect brilliant green is much

superior to mercury perchloride.

The brilliant green is dissolved in normal saline solution in the strength of 1 in 1000. At this strength it can be used as a lotion, and gauze soaked in it can be applied to the wound as a dressing. It is non-irritant to the tissues, and I have applied it to the peritoneum, the meninges, the synovial membranes, and practically all other varieties of tissue without harmful effects. The less vascular tissues are stained green by its use—for instance, the cuticle of the skin, the edges of fascia or aponeurosis, and sometimes bone. But where it has been in contact with the more vascular muscle or subcutaneous tissue no staining occurs. Dead and necrosed portions of muscle are stained green, and this fact is sometimes of use in distinguishing such necrotic tissue.

After being in contact with the tissue, the dye gradually becomes transformed into a leuco-derivative, and the hitherto green-dyed gauze in contact with the wound becomes white to the depth of several layers. Granulation tissue gradually forms in the wound, and to emphasise this statement I believe that the formation of granulation tissue is more rapid and more "virile" in character under the influence of a dressing of brilliant green than with other antiseptics- for example, eusol.

The most striking results are seen in the cut surfaces of muscle. The muscle rapidly becomes bright red, and the formation of a highly vascular granulation tissue takes place. In thirty-six to forty-eight hours the muscle may be covered with firm, "dry," bright red granulation points, which present none of the shreddy, sodden look of the granulations under a cusol dressing.

The surface of the wound is drier, and the pus formation is smaller in amount and thicker in consistency, than in a similar wound dressed with cusol.

To the foregoing may be added a further note, by Capt. ARTHUR F. COLE, R.A.M.C. (B.M.J., Aug. 4), emphasising the economy both of time and material effected by the use of this agent.

"After experimental proof in every sort of case had convinced me of the value of brilliant green, I was interested to find that my surgical nursing staff was equally enthusiastic in spite of occasional stained hands and clothes. The extraordinary results, and the increased comfort of the patients, and the diminished number of dressings to be done had convinced them also. The wounded from Mesopotamia arriving at Cumballa Hospital, Bombay, differed in some degree from most of those arriving in England from, say France. For geographical reasons it was usually three weeks before they got to Bombay, and wound infections were strongly entrenched. B. pyocyaneus in particular, especially in septic compound fractures, was hard to overcome.

After preliminary surgical treatment—in some cases already carried out in Mesopotamia—ordinary absorbent

gauze, wet with 1 in 1000 brilliant green (aqueous), was applied to the wound, inserted into sinuses, and covered with protective; even the foulest case was dressed not more than once daily, and surface infections often only alternate days. Cultures taken from the 'pus' were used to control the clinical improvement, and even in the Bombay climate, so favourable to the growth of organisms, wound infections were overcome by the resistance of the patient aided by the brilliant green.

As regards the actual economy in dressings, it was found that during two periods of six weeks, with and without brilliant green respectively, the quantity of material consumed was roughly as 1 is to 2. The average number of patients under this treatment at one time

was 85."

Blackhead in Turkeys.

Two livers taken from young turkeys have been sent to us recently for examination. In both cases the disease present was what is commonly known in America as "blackhead." We regret to say that this fatal and highly contagious disease is becoming very common in Ireland, and as neither of the owners of the dead birds referred to had any idea of the cause of the loss of so many of their turkeys, a brief description of the disease may help. There is, unfortunately, no cure, but when an enemy is recognised it is, at all events, possible to take precautions to prevent its further spread.

At the outset it may be said that it is a disease peculiar to turkeys; chickens running with a diseased flock

are apparently immune.

The two periods of the turkey's life during which it is likely to succumb to this disease are during the early stages of growth, often during the second month; and again in autumn, just before the fattening period.

The first symptom we have observed is a certain list-lessness—the bird lacks "life" as it were. There may or may not be diarrhea. American investigators are very consistent in their statements of diarrhea being a constant symptom, but our experience does not bear out this observation. After a day or two the bird dies. With such very young birds the symptoms are not apparent until just before death, although on making a post-mortem examination one wonders how this can be so.

On post-mortem examination special note should be made of two points—(1) the liver, (2) the blind tubes (cæca). The liver is usually spotted with peculiar looking circular patches, quite flat, like discolorations rather than the hard, cheesy-like nodules associated with

tuberculosis.

The two diseases are very commonly confounded. Tuberculosis is not a disease of young birds, and in a six weeks old turkey, even if no other symptoms were present, the spots on the liver point strongly to blackhead. The cæca are found just at the junction of the small and large intestines, and can easily be picked out owing to their swollen appearance. Instead of the normal dark-coloured semi-fluid digested food, they are full of a cream-coloured cheesy-like material, and are greatly enlarged. These two symptoms may be taken as proof of the disease.

The parasite which is said to cause the trouble has an extremely complicated life-history, and is still the subject of considerable controversy amongst investigators. It does not seem of much use to try remedies. Salmon advises a little iron and sulphur; the iron may be used at any time, but the sulphur is dangerous in wet weather, and must be used with caution. Purgatives, such as Epsom salts or castor oil, should not be given. There are a few points to be strictly observed in the case of a small outbreak, or at the first sign of the disease:—

(1) Do not run the later broods over any ground ought to have their coats ta where an older flock or a last year's flock had black-treatment as the mare had.

(2) Disinfect all houses, coops, etc., at short intervals, certainly for each fresh lot of birds.

(3) Scald food dishes well.

(4) Keep the turkeys from wet. There are always more deaths in wet than in dry weather; consequently, it is evident wettings tend to promote the disease.

(5) Do not buy stock from a farm known to have

"blackhead."

(6) Do not sell for stock birds from a flock where there have been deaths from this cause. Some birds recover and act as carriers all their lives. The worst "blackhead" liver we have ever seen came from an adult turkey hen that had seemingly been in good health up to a short time before her death. The liver showed lesions that were obviously of long standing, and it is probable the bird had been spreading the disease wherever she went. We were, unfortunately, unable to obtain the caea of this old bird for examination.

This disease will not "wear itself out." Each year sees it become worse on an infected farm, until turkey-rearing becomes an impossibility—as on so many farms in Rhode Island, U.S.A. This State, once a great turkey-raising territory, is now practically devoid of the birds owing to the ravages of blackhead. Some of the best men of science are at work on the problem of prevention or cure, but, so far, they have not been able to save birds that are badly attacked, though, no doubt,

many mild cases recover.

It should always be borne in mind that the greater the vigour of the young stock and the better their food (not of necessity rich food), and the cleaner they are kept from lice, ticks, and red mite, the higher their powers of resistance. The longer they escape, the greater chance they have of surviving the illness, but no hopes must be built on this. Infected land should be cleared of turkeys for a couple of years before restocking.—M.H.M., in The Farmers' Gazette.

Cruelty Charge at Swansea-V.S. fined.

At Swansea, on Wednesday, 15th inst., Stanley J. Pike, M.R.C.V.S., was summoned for unlawfully causing a mare to be cruelly ill-treated between June 20th and July 25th. William Geo. Ball, an employee of Pike was also summoned for cruelty to the animal. Mr. Augustus Jones, owner of the horse, valued the mare at £75. Mr. Marlay Samson prosecuted, instructed by Mr. J. Stanley

Owen, and Mr. Rupert Lewis defended.

Mr. Samson said the horse was totally unfit to go to work on the last occasion, July 25th. She was very ill at the time, and quite unable to pull a trap along the heavy Gower roads. The horse was suffering from double pneumonia and hydrothorax, and her body was a network of weals and running sores. On the last occasion she was worked she was practically dying. Mr. Samson said this was apparently due to flogging, but the servant or servants responsible for it could not be traced. The animal was put into Mr. Pike's custody in June, and on June 26th Mr. Jones saw the mare which was in an abominable state, and could hardly walk across across the yard; in fact, her respiratory organs were ruined. Mr. Pike had stated that the mare had not been worked for a week.

The animal died on August 11th. The mare Duchess was given into Mr. Pike's custody for her services to be given in return for her keep. At the time of the agreement she was a fine animal, and in the words of a veterinary surgeon she was the "best mare in Swansea."

Mr. Augustus Jones, of the firm of Jones, Walters and Co., said the mare was bought at Cardigan in 1916, and was at that time five years old. Some time later she refused to negotiate any hills, and was sent to Mr. Pike. Witness told Mr. Pike that he and his assistants ought to have their coats taken off and receive the same treatment as the mare had.

By Mr Rupert Lewis: I did not refuse to discuss the matter with Mr. Pike, but I ordered him from the office.

D. E. Davies, foreman ostler at Messrs. Walter, Jones and Co. at Swansea, said he failed to recognise the animal when it returned on July 25th. She was hardly able to move, and from head to tail was nothing but marks made with a whip. In fact, she was a total wreck, and even then she had been six days in the stable.

Mr. Sam Chapman produced photographs of the mare

taken in Mr. Pike's presence.

Dd. Scott Weir, M.R.C.V.S., said Mr. Pike was asked to put her in double harness, and on several occasions he saw her in a two-horse brake. He saw her on the 26th, and she was covered with weals, undoubtedly caused by whipping. She was also suffering from debility, and there were numbers of sores caused by the harness. These were at least seven or eight days old. There were, in addition, dropsical swellings between the two forelegs. Her debility and dropsy could have been caused by under feeding, over driving, by the fact that the horse was a dainty eater and "poor doer" (requires coaxing to eat its food). The mare was a thin-skinned one, and the whip marks might have been made over a considerable period. When he saw the animal on July 26th she was in an emaciated state. The whip marks stretched from the rump to the shoulder. Witness attended at a post-mortem, and arrived at the conclusion that death was due to dropsy caused by debility. This might have been brought on by a sudden rush of work.

Mr. James Murray Stewart, M.R.C.V.S., gave corro-

borative evidence.

DEFENCE.

Mr. Pike said he took the mare with reluctance to oblige Mr. Weir, and declared that the animal had every attention, being given only occasional work, and then placed under the control of his most experienced and careful driver. As to the alleged sores, they were slight, and received due attention, healing quickly under the treatment, and being properly protected from friction. The animal was in a "soft" condition when he received her, and she was very delicate in her feed. To that he attributed her state of health, she being what is known as a "bad doer." She had been in the stable several days before being taken out with a brake the last time, and he allowed Bill to take her out that day because he expressed the opinion that she was in a much improved state. Ball had reported to him her jibbing propensities, and in answer to questions he expressed the opinion that it would be wise to apply the whip moderately if a horse started jibbing at a point where if it continued it might be dangerous to the occupants of a vehicle. He had frequently seen the mare, and saw no sign of He gave her medicines, but he had not drugged her.

The driver Ball said on most of the occasions when he took the horse out she caused a great deal of trouble by

jibbing.

The magistrates, after retiring, fined Mr. Pike £10 and Ball £5, and they allowed £5 towards the expenses of the witnesses for the prosecution and advocate's fee. The Herald of Wales.

A question of evidence.

Sheriff Broun, in Ayr Sheriff Court, has given his decision in a case in which David Manson, farmer and potato grower, was charged with having contravened the Seed Potato Orders by selling 5 cwt. of seed potatoes of the Epicure variety, of which he was the grower, at the price of £16 per ton, being beyond the maximum price fixed. The defence was that the respondent, while admittedly the grower of the potatoes, was also a retailer, and was entitled to charge the retail price.

The Sheriff found the charge not proven. He said he had come to the conclusion somewhat reluctantly that the charge had broken down, not on account of the point raised by the defence, but on another point. On the contention of the defence, he would have decided against the respondent, as he considered there was no exception in the Act about a grower. Seed potatoes were quite clearly defined by the Act as follows:—"As from 1st April a seed potato shall, for the purposes of all the Orders, mean a potato which will not pass through a riddle having a one-inch mesh, and will pass

through a riddle having a two-inch mesh.

Had it been proved that these potatoes were seed potatoes according to the Act? If Mr. Manson had pleaded guilty he would have had nothing to do with it but to take his statement; but when the case went to proof, all the facts that made up the charge must be proved to the satisfaction of the Court, and there was no evidence whatever that the potatoes were seed potatoes according to the definition of the Act.-- N.B.A.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:

ing subscriptions for 1317.—			
W. J. Fletcher, Wrexham (1916, 1917)	£2	2	0
R. L. L. Hart, Capt. A.v.c.	1	1	0
J. H. G. Jerrom, Capt. A.v.c.	1	1	0
P. J. Malone, Capt. A.v.c. (1916, 1917, 1918)	3	3	0
S. J. Motton, Capt. A.v.c.	1	1	0
V. Pride-Jones, Capt. A.v.c.	1	1	0
R. G. Saunders, Penzance	1	1	0
W. Watt, Capt. A.V.C.	1	1	0
H. S. Wright, High Wycombe	1	1	0
Previously acknowledged	848	15	0
	E 861	7	0

ARMY VETERINARY SERVICE.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Aug. 17.

REGULAR FORCES. ARMY VETERINARY CORPS.

To be temp Maj.:-Temp. Lt. Col. R. J. Stordy, p.s.o., E. African Protectorate Forces (Aug. 1).

Temp. Capt. G. P. Hayter resigns his commn. (Aug. 19).

To be temp. Lieuts.:—W. L. Sinton, G. McElligott, R. W. M. Mettam, T. Hodgins, (Aug. 1); T. F. Arnold, C. S. Northcott, T. A. Elam, J. B. Garside, T. Grahame

Capt. to be temp. Major: P. J. Simpson (Jan. 24, 1916)

(substituted for that which appeared in the Gazette of Feb. 24, 1916).

SPECIAL RESERVE OF OFFICERS.

Aug. 17. Lieut. (on prob.) J. Leigh is confirmed in his rank (Aug. 18).

India Office, Aug. 16. Capt. (actg. Maj.) E. G. Turner to be Asst. Dir. Vety. Services (Dec. 23, 1916).

TERRITORIAL FORCE, ARMY VETERINARY CORPS. War Office, Aug. 16.

To be actg. Majors whilst empld. as Dept. Asst. Dirs. of Vety. Servs.:—Capt. J. H. Wright (July 4); Capt. C. Hartley, jun., F.R.C.V.S. (June 22); Capt. A. W. Reid, F.R.C.V.S., Capt. J. S. Bowden (June 25): Capt. A. N. Foster, F.R.C.V.S., Capt. P. Abson (July 1).

Aug. 20. Capt. H. C. Jagger to be actg. Major whilst empld. as A.D.V.S. (June 26).

Aug. 21.

Capt. H. E. Powell to be actg. Major whilst empld. as A.D.V.S. (June 28).

The following casualties are reported:

DIED-Pte. W. Broomfield, 17474 (Ongar) Pte. A. B. Bennett, 6749 (Worthing). KILLED—Sgt. J. W. Southall, 6047 (Wentbridge).

OBITUARY.

MARK.—James Wilson Mark, 2nd Lieut., Royal Irish Regiment, dearly beloved elder son of James Mark, M.R.C.V.S., The Chestnuts, Newry, Ireland, died of wounds, August 7.

The late Capt. J. M. Christy.

Capt. James Macnab Christy, M.R.C.V.S. late Senior Veterinary Officer, Transvaal, received his professional education at the Royal (Dick) Veterinary College, Edinburgh. He was for ten years in the Irish Civil Veterinary Department, and a constant exhibitor of horses at

the shows of the Royal Dublin (Agricultural) Society. He went to South Africa, served through the war, and received the Queen's (three bars) and the King's (two bars) medals. In 1905-7 he was President of the Transvaal Veterinary Medical Association.

VETERINARY STUDENTS IN THE ARMY.

Dear Sir,-The heading you have given to my letter in the current number of The Record, re Veterinary students and military service, is rather misleading. I think it is a fact that very few if any of them are serving in the A.V.C. If they were they would be serving the country in a branch of the service in which their special training both before and after entering the colleges could be profitably utilised; also they would be gaining fresh experience which would be useful to them and to the nation in their future professional careers. As a matter of fact the majority if not all of them are in the combatant branches of the service. As the war apparently is going to continue for some considerable time yet, I think it is in the national interest if, as I said in my previous letter, a steady supply of trained experts is to be turned out from the Colleges, that such students should be sent back to continue their training. Aug. 20.

LOOKING AHEAD.



THE HUGH TAYLOR HUT, Y.M.C.A., IN THE ADVANCE VETERINARY CAMP.

At the Council meet. ing of the Royal Agricultural Society, on July 25, it was reported that in the competitive examination for the Society's prizes for cattle pathology, Royal Veterinary College, the silver medal has been gained by Mr. L. P. Pugh, Pennard House, Sevenoaks; and bronze medal by Mr.F.C. Scott, Womersley, Pontefract, Yorks.

From 1st Jan. to 4th Aug. this year, Ireland sent us 155,550 fat cattle, 128,745 fat sheep, and 126,700 fat pigs. Her total export of live stock (exclusive of horses, letc) was over 915,000 head.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

	Anti	hrax Ani-	Fo and-M Dise	Iouth	(incl	ders† ading rcy)		Parasitic Mange.		Swine	Fever.
Period.	breaks	mals.	Out-	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks	Out- breaks.	Slaugh- tered.
IRELAND. Week ended Aug. 11							Outb	reaks 1	5	5	16
Corresponding Week in $\left\{\begin{array}{ll} 1916 & \dots \\ 1915 & \dots \\ 1914 & \dots \end{array}\right.$								1 2 1	3 2 4	4 3 2	25 16 8
Total for 32 weeks, 1917	3	5			1	1	3.	4	248	165	999
Corresponding period in $\left\{\begin{array}{ll} 1916 & \dots \\ 1915 & \dots \\ 1914 & \dots \end{array}\right.$	3 1 1	7 1 1	 76	 957	 1	 3 	4: 4: 5:	E	257 270 379	203 165 144	1185 926 720

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 13, 1917. Note.—The figures for the Current Year are approximate only. As diseased or Exposed to Infection

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

			Anthrax			ot- louth ase.	Glan	ders.†		sitic		Swine Fever.		
Perio	Out- breaks (a)	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.			
GT. BRITAIN. Week ended Aug. 18			. 18	3	3			2	2 2	29	41	2	30	15
Corresponding week in	{	1916 1915 1914		7 11	9 9 11				2	15 7 5	34 20 6	2	80 59 61	58 267 224
Total for 33 weeks,	1917			321	368			18	30	1831	3587	395	1661	715
Corresponding period in	{	1916 1915 1914		360 407 505	424 467 546	1 11	24 74	34 35 70	89 64 216	1657 557 1516	3758 1221 2623	180 159 151	3174 2871 2711	8552 12853 28412

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—London 1, Stafford 1

Board of Agriculture and Fisheries, Aug. 21, 1917 Excluding outbreaks in army horses.

IRELAND Week en	ded Aug.	18							Outbreaks 2	5	4	29
	1916								1	5	11	12
Corresponding Week in	1915 1914				:::		:::		$\frac{3}{2}$	5	5 6	23 24
Total for 33 weeks, 1917			3	5			1	1	36	253	169	1029
Corresponding period in	1015		3	7			·:;		46 49	262 275	214 170	1197 949
Corresponding berion in	1914		1	î	76	957			59	380	150	714

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug 20, 1917 Note -The figures for the Current Year are approximate only · As Diseased or Exposed to Infection

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Public Health Dept., City Chambers, Edinburgh WEST OF SCOTLAND V.M.A.

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Hon. Treas: Mr. Geo. W. Weir, M.R.C.V.S., 88 Crookston Street, Glasgow Meetings, Second Wednesday, May, Oct. and January

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1521.

SEPTEMBER I, 1917.

Vol. XXX.

A BOARD OF AGRICULTURE NOTE.

On another page we reprint from The Farmers' Gazette (Dublin) an account of feeding results, prepared by the Chief Veterinary Officer to the Board of Agriculture, on cases recently inquired into at the Board's Laboratory. It is no recent discovery that S. Jacobæa possesses injurious properties, but the information has lain hid in a few text-books, useless, and almost forgotten. It was mentioned in connection with horses in The American Veterinary Review six or seven years back; but so far as we know this present note is the first definite warning that the agriculturist in this country has received as to its effect on cattle. The plant is a common one in many districts, found frequently in poor pastures and waste land, but seldom in good pastures, and rarely in arable. In old herbals it is called *Herba*e Sancti Jacobi, or Sancti Jacobi flos; and in one it is, curiously enough, described as "a certaine remedie to help the Staggers in Horses;" whence, probably, its names "stagger-wort" and "segrum.

But its chief interest in the present connection lies in the linking up of veterinary work with agriculture—a position reached years ago in nearly every country but our own, where, until recent years, the mutual interest has been little more than nominal. If the demonstration by the present war of the necessity of good agriculture to the existence of the State is sufficient to divert the attention of our rulers from their squabbling and self-seeking, and to convince them that there is room for every capable man amongst them in keeping the huge machine running at its full efficiency, the veterinary profession may look forward to a more useful and

more honoured future.

"THE VETERINARY REVIEW."

The August number of the new journal edited by Dr. O. Charnock Bradley is published, and fully bears out the high promise of the first one. It is distinctly larger than either of its predecessors—the three together run to 358 pages, of which the first fills 102, the second 114, and the third 142.

No lessening of the quality of the contents accompanies the increase in size; and the present number confirms the impression that the journal will occupy a place in our literature which no other publication

in this country has hitherto attempted.

One original contribution appears—an article by Capt. Frank Chambers, A.v.c., upon the transmission of animal trypanosomiasis in Northern Rhodesia by blood-sucking flies other than Glossina, which indicates that the problem is a wider one than was the land during the time he was ill.

foreign sources bearing upon almost every branch of veterinary activity, divided in accordance with the classes of subjects into 17 sections. A glance at the number of pages allotted to some of these sections may help to indicate the editor's methods of selection; for dietetics occupies over five pages, infectious diseases 13, parasitology nearly 7, surgery over 10, toxicology 2, and tuberculosis 7. It will thus be seen that work of clinicians receives a due share of attention. Such subjects as genetics, laboratory culture methods, and physiology, while not overlooked, receive much less space.

Three shorter divisions—notices of reports, reviews of books, and notes upon books, follow. The final division of some 42 pages is a bibliography of recently published papers and articles. most part this is an enumeration of titles, authors, and sources, though occasionally brief comments are appended; and to some readers this may prove of little interest. But there are workers to whom

such a list will be invaluable.

Those who know the amount of literature bearing upon veterinary science now published will realise the good that this journal may accomplish, and will agree that it might advantageously be augmented in the near future.

OPEN-AIR TREATMENT OF TETANUS IN THE HORSE.

In last Saturday's Record Mr. Penhale records a case of tetanus treated by the open-air method, which he evidently considers novel. It is over thirteen years ago since I treated the first case in the open, and like Mr. Penhale's, it was successful.

The patient was a yearling colt which had been docked. It was noticed at grass some time after, and had been a few days stiff when I saw it. Being able to reach the ground he was allowed to remain in the field: nothing was done by way of treatment, and he gradually recovered. Other cases were reported in the periodicals before this time, so my case was not the first.

Another young horse which took tetanus at grass and was allowed to remain in the field, died.

Six years ago I had a case of a farm horse which took ill at grass with tetanus. This was a very mild case; the owner thought there was either something amiss with his back or that he was becoming a shiverer. Being quite able to gather his food he was never brought in, and did well without treatment. The disease may vary greatly in severity. One case I had was able to do a little light work on

Selected cases might be tried in the open, or There are 73 pages of abstracts from British and those that take ill at grass could be watched and

allowed to remain as long as it was considered safe. Practitioners will readily understand that in most on stall to another, or through a door, and surely it would be courting disaster to turn such cases out to the grass or the open.

I am now almost convinced that beyond slings and good nursing little can be done by way of treatment. Recoveries that are credited to serum, or any other treatment, may be safely put down to the vis medicatrix natura, and the degree of the trouble; for if we continue with any particular treatment we soon come to a disappointment.

WILLIAM LOTHIAN, M.R.C.V.S.

ABSTRACTS FROM FOREIGN JOURNALS.

THE ETIOLOGY AND SPECIFIC PROPHYLAXIS OF EXUDATIVE PLEURO-PNEUMONIA OF THE GOAT.

Prof. N. Mori has observed, in Southern and Central Italy, a special disease of the goat which, from his clinical, anatomo-pathological, microbiological, and experimental studies of it, he has identified with the boufrida of Algeria, studied by Thomas in 1873, and with the pleuro-pneumonia raises the question whether this represents a true observed in Germany in 1894 and 1895 by Pusch, Storch, and Holzendorf, and in the Lower Pyrenees in 1895 by Leclainche. Mori published a preliminary account of his observations in Il Nuovo Ercolani of last year. He proposes to make a complete study of the disease in a future work; and, in the article under notice, he confines himself to the results of his microscopic investigation, cultivation, and experimental transmission, and his attempts at specific prophylaxis and at treatment by means of the serous exudate collected from the pleuræ of infected animals.

Microscopic examination demonstrated streptococci and bacilli in the lungs and in the exudate, which probably indicate a bacterial invasion during the death agony or post-mortem. In the pathological material, Mori observed frequently, but never reacted to inoculation; but subcutaneous, always in limited quantity, elements which by their size and shape appeared similar to the conidia of hyphomycetes. Sometimes these were isolated, sometimes they were grouped by pairs, in small chains or irregularly. They possessed a greenish refractility, and stained with difficulty. The best staining results were obtained with an aqueous mycelial condition, and becomes transformed within solution of methyl violet, which gave an intense peripheral colouration.

One constant feature, which Mori considers of great etiological importance, was the presence of special corpuscles, one-tenth the size of leucocytes.

These, when examined fresh, appeared rounded or slightly oval, of a greenish colour, and refractile. recently collected from the pleuræ of animals They were encountered in the pulmonary lesions slaughtered in the first days of the disease. The and in the contents of the bronchi, but were most numerous in the fibrinous pleuritic exudate. They were especially localised in the cytoplasm of the polynuclear neutrophile leucocytes. All attempts Capogrosso) appear encouraging. to stain them failed. Mori compares these cor- used for preventive purposes should not only be puscles of caprine exudative pleuro-pneumonia to the filtered, but also should be submitted to a prolonged

cellular inclusions described in the diseases caused by filtrable viruses, and especially to the corpuscles cases we meet horses can scarcely be moved from of Babes in rabies, and to the corpuscles recently encountered by Lesche in Landry's paralysis.

Attempts at cultivation in the ordinary media almost always failed. Considering the corpuscles as endo cellular parasites, Mori prepared a liquid nutrient medium for them in which the integrity of the cellular elements could be preserved for a sufficiently long time. In this medium he placed small pieces of the solid exudate collected during the disease. He found that in the tubes thus sown the exudate became thicker in three or four days, but by prolonging the cultivation the exudate became dissociated and imparted a uniform milky aspect to the cultural liquid. Finally, he was able to collect a uniform whitish powdery extract from the bottom of the tube, while the rest of the liquid was slightly milky in appearance.

Under the microscope the cultural deposit showed many more corpuscles than the fibrinous exudate: and all these corpuscles showed a distinct acidresistance, and stained by the Ziehl-Mori method. The cells preserved their form for some time. corpuscles were preserved in the tubes, retaining their acid-resistance, for nearly three months. Mori cultivation of the specific germ of caprine exudative pleuro-pneumonia, or a simple preservation of it in a suitable medium. It appears to be more probable

that it represents a true cultivation.

Nocard and Leclainche say that attemps at the experimental transmission of this disease have always failed. Mori, by the endo-pleural inoculation of specific material, caused only a thermic reaction of a few days duration and other phenomena of little importance. By endo-pulmonary or endo-cardiac inoculations he succeeded in causing a morbid condition which was more intense though not comparable with the natural disease, and death. Inoculation of a culture of the acid resistant corpuscles into a kid caused a morbid condition similar to the natural disease. Rabbits, pigeons, and dogs pleural, or endo-pulmonary inoculation of guineapigs produced a characteristic symptomatology, and death.

As regards the nature of the specific virus, Mori thinks that it must be due to a true hyphomycete which is capable of invading the organism in its the organism into the corpuscular, and especially to the endo-cellular form here described.

Starting from the fact that the serous exudate of the pleura is incapable of reproducing the disease when inoculated into goats, Mori has made experiments in specific prophylaxis with pleuritic exudate animals subjected to these experiments were inoculated subcutaneously or into the pleural sac. The results obtained by various veterinarians (Presutti, The exudate centrifugation in order to ensure its stability .-(Revista de Higiene y Sanidad Veterinaria).

[An account of what has been hitherto known of this disease appears in the current translation of Hutyra and Marek's work, Vol. I, page 406. The name there given to the condition is "Infectious Pleuro-pneumonia of goats." There is another condition called "Infectious Pneumonia of Goats," by Hutyra and Marek (Vol. I, page 124). transmissible by inoculation, and should be differentiated from the disease dealt with above. Transl.

THE LARVÆ OF GASTROPHILUS EQUI AND THEIR MEANS OF ACCESS INTO THE ORGANISM.

The mode of access of the larvæ of the equine Æstrus into the digestive canal of their host, and the primary conditions of their development, are still unknown. Certain authors (Numan, Brauer) hold that the young larvæ, after hatching, reach the horse's mouth and nostrils unaided. According to the majority of authors, they are introduced into the mouth by licking, and then swallowed. Cholodkovsky states that the larvæ, at their escape from the egg, penetrate into the epidermis of the horse, causing a pruritus which induces the animal to nibble, extract the larvæ and swallow them. Portschinsky thinks that only some larvæ are intro-duced under the skin and that these do not continue to evolve there, but that their irritant action induces the horse to lick and to collect with his tongue the other larvae remaining upon the skin, which pass direct into his digestive tract.

E. Rouband, in a communication to the Academy of Sciences, reports some researches of his own upon the question; his conclusions may be summarised as follows:-The eggs of the Æstrus do not open spontaneously; the larva may remain in the egg ready for hatching for some weeks. The larva is liberated by mechanical contact. The author has ascertained that a sharp push upon the anterior pole of the egg causes the operculum to open, the larva is liberated and escapes immediately. Contact with a moist object, such as the tongue, is not necessary; abrupt contact against the lips and teeth will cause effectual opening of the operculum. It is known that horses lick themselves only very rarely; usually they react to irritations by scraping

with the mouth.

The larva, once in contact with the mucous membrane of the lips or gums, immediately penetrates beneath the epithelium; thence it progresses towards the deep parts of the mouth, growing until its first

moulting. It does not perforate the skin.

The probability of infection may be greatly diminished by from time to time lightly rubbing the parts of the body where the eggs of these parasites are deposited, in order to cause the premature release of the larvæ outside the body of the horse. (La Clinica Veterinaria.)

THE EFFECT OF WINE UPON EGG-LAYING IN FOWLS.

A French poultry-keeper, in an article in L'Année Scientifique Industrielle, states that fowls to which wine is adminstered lay an extremely large number ing on the material is discontinued, may nevertheless

of eggs. The experiments upon which the assertion

is based are very convincing.

Twelve fowls, each sixteen months old, were divided into two lots. The fowls of the first lot received 60 grammes of grain every morning, 160 grammes of cooked potatoes at midday, and 50 grammes of bread in the evening, with green food ad lib. Those of the second lot received the same diet, with the addition of 100 grammes each of wine daily. The wine was given by mixing it with the bread so as to form a thick soup, which the fowls devoured with avidity.

The results were surprising. The fowls of the first lot laid on an average four eggs each in October, one in November, none in December, and 22 in January. Those of the second lot, which had daily received wine, each laid on an average 28 eggs in October, 57 in November, 44 in December, and 46 January, representing a production of 148 eggs in

excess of that yielded without the wine.

The same experiment was repeated upon two series of fowls only eight months old, with analogous results. Each fowl of the series fed with wine, in the same space of time, yielded on an average 87 more eggs than the "abstemious" fowls of the other series.—(La Clinica Veterinaria).

POISONING IN CATTLE BY RAGWORT.

"It is not generally known that the common British Ragwort (Senecio Jacobæa, L.) is poisonous to cattle. This probably arises from the fact that poisoning under natural conditions is a slow process, that is to say, an animal does not receive, and could not eat enough of the weed at one meal to cause acute poisoning. The poison is cumulative in its action; and with continuous doses the amount of poison which becomes available is sufficient in time to cause very serious symptoms, which often end in death.

The following represent broadly the circumstances of the cases which have recently come to the notice of the Board of Agriculture. Pastures containing a considerable proportion of the weed were cropped in the hope that the comparatively early cropping might help to get rid of it. The crop was made into hay, and, owing to the prolonged spell of cold weather and the scarcity of other feeding stuffs, this was fed later and in considerable amount to animals at pasture. In the cases which have recently been inquired into at the Board's Laboratory, it was not possible to say definitely what quantity of ragwort had been consumed by the animals before symptoms of illness became visible, as the dried forage containing the weed had been simply dumped on the pastures, and the cattle allowed to partake of it at will. In one instance the feeding was known to have begun on the 21st February and continued until the 17th April -55 days. The animals were then changed to other pastures, and feeding on the forage which was by this time under suspicion, was discontinued. The first visibly affected animal was noticed on 6th April—44 days after feeding on ragwort commenced. The time which elapsed between the first appearance of definite symptoms and death varied from a few days up to a month. Some of the animals died a few days after the appearance of definite symptoms. In others the symptoms continued for a month or more, and deaths occurred at the later dates. It would appear also that animals which have received a toxic amount of ragwort over a certain period may seem healthy at the time when feeddevelop active symptoms of poisoning, and die at a later period. Thus, in the cases which have been investigated, some of the animals did not show definite symptoms until twelve days or more after the feeding with

ragwort had been discontinued.

In the early stages the animals have the appearance of being hide-bound. Later they walk with a staggering gait, some appearing to be partially blind or heedless of where they go. Later they become very excitable, and will charge at anyone who approaches them. In some there may be diarrhea, but usually constipation is so marked that it causes violent straining. The pulse is weak and rapid, but the temperature remains normal.

When death takes place in the earlier stages of poisoning the principal lesions found are inflammation of the mucous membrane of the bowel. The omentum is dropsical. Small hæmorrhages are present under the mucous membrane of the bowel and in the pericardium. In acute cases the liver is firmer than normal and yellow in colour, the yellow colour apparently arising from fatty degeneration of the liver cells. In chronic cases there is cirrhosis of the liver, and in such cases the abdominal cavity contains fluid. This is not unlike what is seen in some animals affected with fluke disease. The lungs are congested.

There is no cure, and prevention resolves itself into removing the ragwort from the forage or eradicating it from the pastures. In the Journal of the Irish Department, McGovern makes the following recommendations

in relation to the eradication of the weed:

'Ragwort may be exterminated by preventing the plant from seeding. This may be done: (a) by grazing the infested land with sheep in the winter and early spring; (b) by cutting the plants in the flowering stage, either twice—the first cut being made early in July, and the second about six weeks later, there being no necessity to gather up the cut portions; or once only, cutting being done late in July or early in August, the cut portions of the 'plants must be gathered up at once and destroyed by burning; (c) by pulling the plants if circumstances permit, preferably early in July, when there is no need to collect and burn the pulled plants. If pulled later the plants must be collected and burned to prevent seeding.

It is most important to remember that since ragwort is a biennial plant, it is absolutely necessary on pasture land to carry out cutting or pulling during two successive seasons. It is clear that, in addition to the twoyear-old flowering individuals present in a given summer there must also be a crop of one-year-old plants still in the rosette stage which will produce their flowering stalks during the second summer.

Further, since it is practically certain that the seeds of ragwort, like those of charlock, poppy, and some other plants, may lie buried in the soil still retaining their vitality for some time, any farming operations which may bring these seeds to the surfare will result in their germination, and a crop of ragwort derived from such seed is not an infrequent occurrence on land newly laid down in grass. Finally, owing to the ease with which the seed of ragwort is distributed by the wind, the re-seeding of land temporarily cleared of it is an easy matter when the plant is allowed to flourish and produce its seeds on neighbouring land. There is, therefore, the strongest reason for scheduling this plant as a noxious weed all over the country, and for throwing the responsibility for its eradication on the shoulders of all those who possess or occupy the land.

Recommendation (a) does not necessarily mean that sheep are immune to poisoning by ragwort, although this is a somewhat general belief. There is reason to think that the flowering season—June, July, and early students who graduated in 1914, 12 are in the service of August—is the time when ragwort is most actively the Government or Local bodies, two are in the service

is poisonous to sheep is now being investigated at the Board's Laboratory. From the experience acquired in practice of grazing sheep on ragwort pastures during the winter and early months of the year, it would seem reasonable to assume that the practice is not attended by bad results. It may be, however, that sheep grazed, even for a comparatively short period, on ragwort receive damage to important organs like the liver."

THIRTIETH ANNUAL ADMINISTRATION REPORT OF THE BOMBAY VETERINARY COLLEGE FOR THE YEAR 1915-16. [Abridged.]

Mr. K. Hewlett, the Principal of the College, held charge throughout the year under report. The staff remained unchanged and continued on duty throughout the year, with the exception of Mr. Phadke, who was absent on furlough from 10th April to 2nd July, while on military duty with horses on board ship on the voyage to Marseilles.

The results of the Supplementary and the Annual

Examinations held in 1915-16 combined are as follows: In the Final Year, or Class C, 30 students presented

themselves and 16 passed, a percentage of 53:33; in the Second Year, or Class B, 26 students presented and 21 passed (80.77); in the First year, or Class A, 39 students

presented, 25 passed (64.10).

Of the 37 new students, 7 had passed the School Final and 5 the Matriculation Examination. The remaining 25 passed the College entrance test or were otherwise eligible for admission. The new students classified according to caste were 21 Brahmins, three Marathas, three Lingayats, one Rajput, six other Hindus, two Mahomedans and one Parsi.

This year there were 25 applicants for the 11 scholar-nips. The Government of the Central Provinces continued the stipend to one student already at the College, and awarded a stipend to a new student. The Governof Ceylon continued the stipend to their student. The States of Radhanpur and Porebunder continued the scholarships to their students, and stipendary students were sent from the following States:—Gwalior, Indore, Junagadh, Jessalmer, Idah and Ramdurg. Besides these the Lingayat Education Fund continued stipends to three students. The Anjuman-i-Islam continued the Suleman Abdul Wahed scholarship to a Mahomedan student. At the close of the wear these was the students. student. At the close of the year there were 42 students in receipt of some assistance from scholarships, and 66 students without such assistance.

The Students' Hostel has been quite full throughout the year, and competition for accommodation is now quite keen. All arrangements in connection with the Hostel have been satisfactorily carried out by Mr. Dhakmarvala, the First Professor, who performs the duties of

Superintendent of the Hostel.

The students have continued to avail themselves of the tennis courts, and Mr. Dhakmarvala has organised the playing of cricket and foot-ball. Staff Sergeant Farrier Town, the Instructor of Shoeing, has continued

the usual drilling classes.

Clinical instruction. This was carried out as usual Clinical instruction. This was carried out as usual in the Bai Sakarbai Dinshaw Petit Hospital for Animals, which is affiliated to this College. During the year 4494 in-patients and 923 out-patients were treated, a total of 5417 patients. Of these 1343 were equines, 2722 bovines, and 1352 others. The average daily attendance was 355.

Employment of Graduates. Of the 16 students who who graduated in 1915, 11 are in the service of Government or Local bodies, two are in the service of Native States, and three are as yet unemployed. Of the 15 poisonous. The question of whether flowering ragwort of Native States, and one is unemployed. Of the 16

students who qualified in 1913, seven are in the service of the Government or Local bodies, four are in the service of Native States, two are in private practice, and three are unemployed. Thus out of the total of 47 graduates who have passed out of the College in the last three years, 30 are in the service of the Government or Local bodies, eight are in the service of Native States, two are in private practice, and seven are unemployed.

EXTRA DUTIES.

Throughout the year under report the Officers of the College and Glanders and Farcy Department have continued to assist the military authorities by attending to animals found by the Embarkation Veterinary Officer unfit to proceed to their destination. In this way 884 animals were treated during the year by the Principal, assisted by Messrs. Shaikh and Miranda, of the College Staff. Towards the close of the last and at the commencement of the present official year, a considerable number of cases of ringworm among the remounts in-tended for shipment overseas occurred. A segregation camp for these horses was formed in portion of the College Grounds, and another camp in a portion of Old Government House Grounds, Parel. These camps were placed in charge of Mr. Rebello, of the Glanders and Farcy Department, and Mr. Shaikh of the College Staff, respectively, assisted by a number of students, who acted as dressers under their orders. It was eventually decided to ship these animals together on a ship by themselves, and the Principal was asked to provide a Veterinary Officer and dressers. Mr. Phadke of the College Staff and four students volunteered their services, and accompanied the horses to France.

During April and May there was an extensive outbreak of influenza among remounts which were then arriving in Bombay in considerable numbers. The horses from one train were unloaded at Kurla and segregated at Wakola and Mr. Shaikh of the College Staff was placed in veterinary charge of this camp and did excellent work there in the sick line. The affected horses from the Cavalry Drafts Camp, Parel, were segregated at Worlee as well as in Parel Government House Grounds, Messrs. Haji and Kadri, of the Glanders and Farcy Department, being placed in charge respectively. At the termination of the outbreak these horses were entrained under the supervision of the College officers. On several occasions the Embarkation Veterinary Officer obtained assistance from officers of the College in discharging his duties at the Docks and elsewhere when it was impossible for him to attend to his duties single-handed. Mr. Sowerby, Mr. Shaikh, and Mr. Miranda assisted on several occa-

sions in this way.

The Principal was requested by the Quarter-Master-General in India to obtain the services of Graduates of Indian Veterinary Colleges to take veterinary charge of horses in transit to Europe and elsewhere, and was able to make suitable arrangements for the veterinary supervision of 27 horse ships. Among the Graduates who volunteered for this purpose were the following servants of the Government of Bombay:—Messrs. Marathe, Lopez and Phatak, of the Bombay Civil Veterinary Department; Mr. Phadke, of the College Staff; and Mr. Rebello and Mr. D. G. Hadji, of the Glanders and Farcy Department. Mr. Hewlett continued to carry out his duty as Embarkation Veterinary Officer, Bombay in addition to his ordinary civil duties throughout. bay, in addition to his ordinary civil duties throughout the year under report.

During the year under report the Principal was ordered to examine animals sent to the Hospital by the Courts, and to submit reports on them to the Magi-strates concerned. In compliance with these orders the Principal examined and reported on 660 animals.

The Principal desires to record his appreciation of the

way in which the Officers of the College have performed in the Presidency, and from the City of Bombay. The their duties, which, although considerably augmented, number of deaths recorded was 16,294, against 9378 in

have been carried out cheerfully and well. Mr. Sowerby, the Assistant Principal, although only recently recovered from a severe illness, has worked very hard, having taken over some of the educational duties of the Principal, in addition to his ordinary work. Messrs. Miranda and Shaikh have done excellent work in connection with the military horses, and throughout the year have worked with most praiseworthy zeal and energy. A considerable amount of extra work in connection with correspondence regarding the military duty undertaken by the Principal has fallen on Mr. Pansare, the head clerk, and other members of the clerical establishment.

The large number of military horses which have required attention has thrown upon those students detailed as dressers a not inconsiderable amount of extra work which has been performed with cheerfulness in hours usually devoted to recreation.

> K. HEWLETT, I.C.V.D., Principal, Bombay Veterinary College.

The Annual Report of the Glanders and Farcy Department records a continuance of the work. Animals seized numbered 33, of which 21 were found to be diseased within the meaning of the Act—Glanders 5: Epizootic Lymphangitis 3: Surra 13.]

ANNUAL ADMINISTRATION REPORT OF THE CIVIL VETERINARY DEPARTMENT, BOMBAY PRESIDENCY, FOR THE YEAR 1915-16. [Abridged.]

Major G. K. Walker held charge of the department throughout the year under report. He was on tour for 166 days and travelled 13,412 miles by rail and 1252 miles by road; in which he visited 14 districts for investigation and inspection, and interviewed district officers and others interested in the work of the department. He inspected 27 dispensaries and seven stallion stands once or more, and the Northcote Cattle Farm at Chharodi five times.

Other work included special investigations of an outbreak of rinderpest in the Dharwar District: and of an outbreak of surra in certain Panjrapoles in the Thana District.

President of the Board of Examiners, Bombay Veter-

inary College, in May, July and November, and of Madras Veterinary College, in December.

Member of the Board of Agriculture held at Pusa in February; of the Judging Committees of the Ahmednagar Horse Show, and of the Belgaum and Mhasvad Cattle Shows: of the Committee of the milk supply of Cattle Shows; of the Committee on the milk supply of large cities

Attended the Poona Volunteer Rifles Camp of Exer-

cise in January. Mr. J. D. Buxy held the post of Deputy Superintendent throughout the year. He was 67 days on tour and travelled 4360 miles by rail and 966 miles by road: visited 14 districts, and inspected 31 dispensaries and six stallion stands: investigated several outbreaks of epizootic diseases during his tours, and supervised the work of the veterinary assistants. He attended the Mhasvad Cattle Show in the Satara District and acted as one of the judges: visited the Northcote Cattle Farm at Chharodi. He worked as personal assistant to the Superintendent, Civil Veterinary Department, during the year. In addition to his other duties he held charge of the offices of the Veterinary Inspectors of the Nasik and Poonah Divisions for short periods.

Veterinary instruction. The necessary practical training in inoculation work was given to newly joined men by Veterinary Inspectors in the field.

TREATMENT OF DISEASE.

Contagious disease was reported from all the districts

the previous year. The increase was due mainly to the greater prevalence of rinderpest, which disease was responsible for more than three-fourths of the total mortality. In connection with the mortality statistics, which are prepared from statements submitted by Mamlatdars and Mahalkaris, it may be remarked that the increase is probably more apparent than real. Since epizootic disease reports have been obtained from veterinary assistants as a routine there is a greater check on the submission of the statistical returns, resulting in greater accuracy. Municipal authorities, except Bombay City, have not furnished systematic returns up to the present, but this is to be remedied in future. As the department increases in strength and efficiency statistics will tend to exactitude, which imports the discovery of more deaths than are at present reported.

During the year 1820 outbreaks were attended by Veterinary Assistants and 87 by Veterinary Inspectors Owing to shortage of staff it is not possible to visit all outbreaks, but the increase in the number attended is satisfactory. Greater attention is being paid to this important work every year and valuable experience and

information is being gained.

Epizootic disease in cattle is mainly spread by movements of animals, and in years of scarcity the danger is increased. It is doubtful if restriction of movements

involving legislation is practicable at present.

There were 13,168 deaths from rinderpest reported, against 6833 in the previous year. The mortality in animals attacked was 44.8 per cent. No district was free from the disease. It was brought to notice that a number of bison died in the Kanara forests. The serious outbreak in the south of the Presidency which commenced in the previous year was imported from Mysore. It spread throughout the Dharwar District and affected the adjoining districts also. Since November the losses have greatly declined, and it is hoped that the intensity of the outbreak is over. Without legislation and a very large staff it is impossible to prevent a further recrudescence or guard against reinfection.

Foot-and-mouth disease was reported from every dis-

trict. 20,007 animals were attacked, against 7348 in the previous year. The number of deaths reported was 291. This disease results in economic loss in working cattle and milch cows, but the mortality from it is usually

insignificant.

Hæmorrhagic septicæmia occurred in 15 of the 20 districts of the Presidency. There were 1157 deaths reported, against 1494 in the previous year. The decrease was due mainly to the scanty rainfall in the northern districts. In many places the disease had disappeared before the arrival of the veterinary assistant, but the diagnosis was confirmed by microscopical examination in 21 outbreaks.

Black quarter prevailed in 12 districts, and 1024 deaths were reported. 142 outbreaks were attended, and the disease was diagnosed by microscopical exam-

ination in 18 instances.

Anthrax was reported from nine districts and caused 379 deaths. The disease was only verified in one outbreak out of 39 attended by veterinary assistants. It is rare to find a case alive, however quickly the report of

an outbreak may be attended to.

Contagious disease in other animals than equines and bovines is rarely reported to this department. Pleuropneumonia and variola in goats and sheep, and rabies in dogs are sometimes notified. Spirochætosis in fowls was observed at Dharwar and diagnosed by the veter-

inary inspector.

Preventive inoculation against rinderpest and hæmorrhagic septicæmia was adopted, generally with considerable success. The several "emergency corps" of reserve under Inspectors were frequently employed with advantage, particularly in the Dharwar and Kanara Districts, where a large number of animals were inoculated. Fund, earmarked for the building of new veterinary dis-

79,706 inoculations against rinderpest were carried out in 421 outbreaks. It was ascertained that 448 animals died within 21 days of inoculation, but many of these must have been in the incubative stage of the disease when inoculated. Accurate results are difficult to obtain owing to the vague reports of the owners. 6555 uninoculated contact animals died.

It has been decided by Government that the expenditure on rinderpest serum shall be limited to Rs. 15,000 per annum, and it is proposed to concentrate our efforts on localities where cattle are valuable, and where success is most likely to be obtained. A heavy expenditure at present in districts where the disease is enzootic and the cattle inferior does not appear to be

justified.

Serum inoculation in 14 outbreaks of hæmorrhagic septicæmia was adopted with satisfactory results, only one death occurring in inoculated animals, while 141 uninoculated animals died of the disease. The supply of this serum was limited, or more inoculations would

have been carried out.

The number of villages visited by veterinary assistants during the year was 3445, against 3779 in the previous year. The decrease in the number is due to the fact that longer periods had to be spent in the villages affected with epizootics. A number of villages were visited in connection with the cattle survey that is being conducted by the staff and, in the case of new dispensaries, to acquaint the inhabitance with their existence. During their tours the veterinary assistants treated 27,481 cases of contagious diseases—mainly foot-and-mouth disease—and 16,124 for non-contagious ailments. 123 animals were castrated on tour. The increase in the numbers over last year is satisfactory, but more castration may be justifiably expected as the confidence of the owners is obtained.

Investigation. Some cases of poisoning in cattle from eating a plant called "Singia" (Vinca pusilla) were brought to notice in the Panch Mahals District.

Surveys are being conducted in regard to the incidence of hemorrhagic septicemia and black quarter in certain localities with a view to the adoption of vaccination against these diseases. It has been demonstrated that, in regard to the latter disease especially, they are not so seasonal as was expected, which adds to the difficulties of instituting vaccination It is doubtful if very striking results can be hoped for, but the matter is still under consideration and investigation.

Outbreak duty and routine work have taken up most of the time of everyone concerned. As stated last year, a special staff for investigation is indicated. The matter

will be represented in due course.

Four hundred and nineteen specimens were sent by the subordinate staff to the Sir Dinshaw Maneckji Petit Patho Bacteriological Laboratory at Parel for diagnosis,

and 69 specimens to the museum.

Veterinary Dispensaries. A new dispensary was opened at Dhandhuka (Ahmedabad District). Several others have been proposed and sanctioned, but for financial reasons have not yet been equipped and

opened.

The total number of patients treated was 139,748 at 53 dispensaries, against 126,915 at 52 in the previous year. There is steady progress in the number of patients treated and in the efficiency of the treatment provided. There is still a large proportion of cases not brought to the dispensary, advice and medicine being provided on the evidence of owners. This is unavoidable in many instances, but it should be discouraged as far as possible, as treatment cannot be satisfactorily provided under such circumstances.

Mr. D. P. Alur, of Sirsi, has generously offered to build a new dispensary at that place. No other dis-pensaries were built during the year. The Wadia Trust

pensaries, was diverted to famine relief in Gujarat. When money is available it is expected that a number of new buildings will be provided, as many of those in which dispensaries are now accommodated are unsuitable. Some existing buildings require alterations and additions.

The new standard plans have now been published and distributed. They should be of great use in new

projects and when making improvements.

[The following section—Breeding operations, presents no noteworthy features. It is a record of the year's work showing a slight increase in the stock, but a decrease in the stock.

decrease in the sales.

The section on "Subordinate Establishment" again points out that the Department is shorthanded. "In order to deal effectually with outbreaks of disease reserve men are required." A concluding remark is "The administration is unduly centralised, and the need for devolution becomes more apparent as the department developes."]

Feeding substitutes.

The following is taken from the current number of The Scottish Farmer:—

"Useful substitutes for all classes of stock can be found among edible Algæ, which are used in Scandinavian countries with success. These were formerly allowed to go to waste, but they can be collected commercially and used with success. Irish moss, showing an analysis of albuminoids 10 per cent., carbohydrates 60 per cent., is largely used, but the present price, £32 a ton, is too high for poultry keepers and others. There are, however, other mosses of the laminaria tribe, which may be termed sugar mosses, inasmuch as they contain 12 per cent. of mannite in addition to albuminoids, carbohydrates, etc. Mannite is sugar in a natural form, differing from ordinary sugar in the fact that it is incapable of undergoing vinous fermentation, and, therefore, is incapable of causing gastric or intestinal troubles. The present quantity of sugar moss or tangle available is up to 100 tons, and the wholesale price is £12 a ton, ex-wharf Liverpool, nett cash. Other mosses, such as sea wrack, also halidrys siliquos, contain mannite, but not in such quantities as those previously mentioned. Tangle or sugar moss is packed in bales, approximate weight 3 cwt., and would make exceptionally good food for poultry, pigs, ducks, etc. It only requires rinsing, then pour boiling water over it, allow it to swell, and dry off with meals, and it should be used up to 15 per cent. by weight of the total mash. The feeding qualities of these sugar mosses should be equal to those of oats. All these are eaten by the inhabitants of other countries.

If poultry and stock keepers would only combine or co-operate, all these available supplies which have hitherto been wasted in this country could be collected for them. The time for collecting the same is now; and unless orders are given at once they will not be available until next year. For egg production, add 7 to 10 per cent. of fish meat meal with the above. One can also use wheat offal meal with advantage. There are also edible bog mosses, of which I am obtaining particulars, and will report on the same as soon as possible. Any enquiries as to the further uses of these, I shall be

pleased to answer.
Thorneycroft, Retford.

J. R. B. Allison.

At a recent big sheep fair on the Wiltshire downs the sensation of the day was the appearance there of two girl shepherds, who had brought their sheep safely over many miles of difficult country.

ARMY VETERINARY SERVICE.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Aug. 21.

The King has been pleased to award the Military Medal for bravery in the Field to the following:—

Sgt. J. W. G. Page, SE/12305. Sgt. F. C. Childs, SE/15677.

Aug. 25.

ORDER OF ST. MICHAEL AND ST. GEORGE.

The King has been pleased to give directions for the following appointments to the Most Distinguished Order of Saint Michael and Saint George, for services rendered in connexion with military operations in the field in Mesopotamia, to be dated June 4, 1917:—

C.M.G.

Lieut.-Col. (temp. Col.) William Dunlop Smith, D.S.O.

REGULAR FORCES. ARMY VETERINARY CORPS.

Aug. 23.

To be temp. Lieut.:—R. E. Bond (Aug. 8).

Aug. 24.

To be temp. Lieuts.:—F. C. Scott, J. W. Knowles, K. A. Miles (Aug. 8).

Aug. 25.
Temp. Lt. to be temp. Capt.:—H. Brinsmead (Aug. 4).
To be temp. Licuts.:—E. A. Pearce, F. Christopher,
E. P. Shallcross (Aug. 13); P. W. Bloye, L. P. Pugh

E. P. Shallcross (Aug. 13); P. W. Bloye, L. P. Pugh (Aug. 14).

Temp. Lieuts. to be temp. Capts.:—G. Howie, J. F. Filmer (Aug. 1).

Temp. Lieut. to be temp. Capt.:—J. Smith (Aug. 1).
To be temp. Lts.:—V. Franklin, T. J. Lewis (Aug. 14);

To be temp. Lts.:—V. Franklin, T. J. Lewis (Aug. 14) N. H. MacAlister (Aug. 15). Aug. 29.

To be temp. Lieut.: -F. Donne (July 23).

The following casualty is reported:-

DIED OF WOUNDS—Actg. Sgt. R. Vincent, 13019 (Chertsey).

OBITUARY.

P. J. Dunne, M.R.C.V.s., Osborne Lodge, Kildare, Ireland. Graduated, Dublin: Dec., 1915.

Mr. Dunne died May, 1917.

Col. J. C. DWYER, M.R.C.V.S. (late A.V.S.), c/o Messrs. H. S. King & Co., 65 Cornhill, E.C.

Lond : April, 1868.

Death occurred Aug. 20th, 1917.

J. F. FARRINGTON, M.R.C.V.S., c/o Mr. James Kelly, Kilcock, Co. Kildare. Lond: July, 1885. Mr. Farrington died 16th May, 1917.

George Pinchin, M.R.C.v.s., Bulawayo, S. Rhodesia, S. Africa.

Lond: July, 1906-

His death took place May 12th, 1917.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

G. Condor, LtCol. A.v.c.	£1	1	0
J. Latta, Ulverston	1	1	0
F. S. Warburton, Capt. A.v.c.	1	1	0
Previously acknowledged	861	7	0
	£864	10	0

Mutton v. Venison in Cumberland.

A Cumberland correspondent to the N.B.A. writes: The statement that the Cumberland Food Production Committee have demanded the extermination of the herd of wild fallow deer ranging Gowbarrow Fell, Ullswater, is incorrect. The Committee require that a portion of the extensive hill grazing owned by the National Trust should be devoted to cattle and sheep. The deer will be thinned, but a breeding stock left to increase in happier times when tourists again wander over the wild park. A difficulty which will present itself, however, is that grazing deer and sheep together is something akin to trying to mix oil and water. Both seek the same short sweet grass and crop it to the very roots, delaying its growth, and hence are antagonistic to each other. Then the constant attention, the regular rounding up by dogs, that sheep require in the lambing and maggot fly seasons, disturb and unsettle the deer and drive them off the ground. On the other hand, they do not resent the presence of cattle or ponies, and where there is sufficient grass for them and the ground is not too precipitous, cattle improve the grazing for sheep and deer. As for ponies, they can turn extremely barren land to profitable account, as they require little or no attention, and the old Highland and Fell strains are hardier than either sheep or deer, and fend for themselves better in heavy snow. Across the Lake on the Martindale Fells, where Lord Lonsdale is the lessee of the shooting, there is a herd of wild red deer, and the stags, powerful ven-turesome animals, sometimes swim the half-mile of lake to the Gowbarrow side. Ardent Lakelanders hold that the presence of these two species of wild deer add a

charm to the Ullswater district, and make it in some respects, a miniature reproduction of the famous Yellowstone Park where the fauna of North America is pre-

THE CRUELTY CHARGE AT SWANSEA

I have read the report of the cruelty charge at Swansea in your last issue with interest, and have endeavoured to sift the evidence on both sides, which is very unsatisfactory to say the least of it. It is inconceivable that a fully qualified veterinary surgeon, Mr. Pike, the defendant, who has been in practice, according to the Register, for twenty-one years, would send a mare alleged to be suffering from double-pneumonia, with hydro-thorax, and running sores, to work, as suggested by Mr. Samson. If the mare was knowingly worked in a practically dying condition, where were the the Swansea Police, or R.S.P.C.A. Inspectors? Why didn't they arrest him?

Now, Mr. Samson suggests that death was due to flogging. I suggest, from the evidence of Mr. Scott Weir, M.R.C.v.s., who attended the post-mortem, that death was due to hydrops pericardium, a sequel of hydro-thorax, the result of pleuro-pneumonia, a debilitating disease which causes emaciation. Also, it would be interesting to know what V.S. treated the mare originally—previous to being sent to Mr. Pike, who apparently has some pretensions to being a horse-breaker himself, or employs a capable man; otherwise, I presume that he wouldn't have been asked to take her in hand to break her in and get rid of her jibbing propensities. I wonder whether the V.S. in attendance adopted serum-therapy, or anti-streptococcus treatment: if so, perhaps we have the cause of the sores described. Or were they the result of the chafing of the harness, which produced erythema intertrigo, in consequence of the mare's blood being in a vitiated state, in a soft condition, which might cause it to jib-and no wonder. Mr. Pike says he had frequently seen the mare, but saw "no signs of disease," gave medicines, but had not drugged her. I presume he had given astringent lotion for sore shoulders. What V.S. ever saw a case of Hydro-thorax which didn't develop dropsical swellings between the fore-legs?

The case and result creates a precedent and involves a

moral—never take a debilitated animal in your custody, for her services in return for her keep—certainly not in war time, when you have war rations to abide by, if you are aware she is a jibber, and a supposed convalescent animal. For assuredly the term "convalescence" doesn't altogether mean recovery from disease. - Yours truly,

Aug. 27.

M.R.C.V.S. (1896).

State of the

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

			Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.		
Period.				Out- breaks		Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.				<u> </u>		1		1		1 (-)		1 1	(-)	1
Week	en	ded Aug.	25	1	2				2	19	24		26	17
Corresponding	1	1916		6	11			1	1	22	31	2	59	57
week in	1	1915		5	5					16	26		65	301
	1	1914	•••	7	9			2	2	3	3	1	59	347
Total for 34 weeks, 19	917			322	370			18	32	1850	3611	395	1687	732
Corresponding	í	1916		366	435	1	24	35	90	1679	3789	182	3233	8589
period in	1	1915		412	472			35	64	573	1247	159	2936	13154
		1914	•••	512	555	11	74	72	218	1519	2631	152	2769	28759

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. firmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—London 2. (1) Confirmed. (b) Reported by Local Authorities. Board of Agriculture and Fisheries, Aug. 28, 1917 Excluding outbreaks in army horses.

THE VETERINARY RECORD

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1522.

SEPTEMBER 8, 1917.

Vol. XXX.

BOARD OF AGRICULTURE—THE CHIEF VETERINARY OFFICER'S ANNUAL REPORT FOR 1916.

The Report is very interesting; though, in accordance with general instructions, all the subjects it includes, with one exception, are treated very briefly. The exception is swine fever, on account of the special work done upon it during the year; and the abstract of this portion of the report which we publish on another page shows how important it has been. We reserve this subject for future comment, and to-day only notice the other sections of the report.

The one outbreak of foot-and-mouth disease in 1916 is described in some detail. Its most noteworthy feature is that, as in so many other isolated outbreaks of this disease, the source of origin could

not be established.

The report of glanders is good, especially when its details are examined. Only 44 outbreaks in civilian horses occurred in 1916; and only 16 of these were in London and its surroundings—that is, in London, Essex, Kent, Middlesex, and Surrey. The recent decrease in this area is remarkable; for the figures are 69 in 1914, 30 in 1915, and 16 in 1916. The Chief Officer justly remarks that the position in London and its environs "is most encouraging, and calls for a special effort by the Local Authorities to eradicate the disease finally." Outbreaks in some other parts of the country increased in 1916; but their total was small, and it is far area than within it. This is perhaps the most hopeful section in the report.

There are some noteworthy points concerning the 560 confirmed outbreaks of anthrax, which involved 1.2 animals per outbreak. Fully 434 of them were on previously clean premises; and a table of the causes which enquiries indicated as the probable sources of origin of these is given. Imported feeding stuffs is blamed for 253 outbreaks, imported artificial manure of animal origin for 37, and the two together for 67, In 52 outbreaks no explanation was obtainable, and 10 others are rather unsatisfactorily ascribed to "a recent death, not reported, but not improbably anthrax," which leaves only 15 remaining outbreaks attributed to four other causes. The Chief Officer makes no comment upon these figures - perhaps wisely, for we think that the anthrax problem is much more I cannot persuade myself that the serum has any complex than they might suggest at first sight.

The Chief Officer speaks severely of the increase results when no serum has been used. (probably solely explicable by war conditions) in the practice of bleeding animals at the point of death or disease. As she was not a valuable animal, the just afterwards, and dressing the carcases. His owner wished that she should have a chance withfigures are serious. Fifty-six anthrax carcases were out much expense. I put her in slings, gave her

opened in 1915, and 90 in 1916; and the result in 1916 was six cases of human anthrax and certainly some dissemination of the disease in animals. The need for stopping this is evident; and few men can do more against it than veterinary practitioners.

Sheep scab is dealt with briefly. In 1916 it increased sensibly in England and considerably in Scotland (the figures for the two countries were 24 and 139 outbreaks respectively over the 1915 totals), while it decreased slightly in Wales. No scab in Great Britain was traced to infection from Ireland, though 144 cargoes of affected Irish sheep were stopped at the ports; but fully 27.7 per cent. of the English scab arose directly from infection from Scotland. Our record for the last five months of 1917 suggests that the Board is surmounting the scab difficulty. The Report tells us something of what the difficulty last year was, but not very much; and it is noticeable that it attempts no explanation of the causes.

Several other items, which the Report mentions Of 213 specimens very briefly, are worth noting. of unscheduled disease received and examined at the laboratories 180 were fowls, which suggests that some owners have begun to realise the importance of poultry and their diseases. Swine fever investigations continue to incidentally reveal a serious amount of swine tuberculosis and swine erysipelas, indicating new fields for the Board's activities; and the fact that 8,309 doses of anti-abortion A vaccine were issued in 1916 shows how much is now being easier to deal with glanders outside the London done in another recently opened field. All these points show how the scope of the Board's activities is widening, and the room for further extension that still exists. Altogether the Report, brief and perhaps over-condensed as it is, is a most interesting summary of a year's good work under unfavourable conditions.

NOTES ON TETANUS.

The fact of experienced practitioners trying new methods of treatment for this disease shows that they have not yet got a remedy in their hands upon

which they can rely as a curative.

I should like to get different opinions and experiences with serum. I have had some very acute cases recover in my hands when using serum; but good effects whatever. I have had just as good

I attended an aged mare some years ago for this

some alterative medicine in her drinking water, and with fairly good attention she pulled through all right. I must say she look a hopeless case at one stage of her illness: she was in poor condition, in her right eye. This is the only case I have had of the eye being so badly affected, although I have seen cases recorded. The eye came quite sound.

The animals that recover from this disease would. in my opinion, recover if kept in quiet surroundings-in slings if necessary, without any other treatment whatever. The serum ought to give its of her horns about a fortnight previously. best results as a preventive, but how rarely are we

asked to use it as such.

A large percentage of cases are in the acute stages of the disease before we are called in, and of course a number of them die. It is for those acute cases that we so urgently need an agent that will give immediate though only temporary relief.

I have not yet seen a case of tetanus from which the animal died of starvation. However acute the trismus they can nearly always suck in sufficient nourishment to keep them alive over the worst stages. It is the spasm of the diaphragm stopping respiration that causes death. I saw, last year, a twelve-weeks old boar pig that had been castrated about ten days, in the last stages of this disease. It seemed to be fighting for its breath, and every few minutes it reared up on its hind legs, evidently trying by this means to get more fresh air.

Perhaps no disease offers so characteristic symptoms for easy diagnosis when fully developed, but in the earlier stages, or in a very mild case, it may take all our powers of observation to recognise it.

Some years ago a client asked me to look at a hunter that he had on trial. It had come by rail, and he thought it had been knocked about in the horse-box. When I went into the loose box where he was I thought I saw a glimpse of the "tetanuslook" on his face. Though I spent some time moving him about, I could not see it again that evening. I examined him again two days afterwards and could then say definitely that he had tetanus, and in time to stop the sale. He ultimately made a good recovery, but there was a difference

in the price to my client.

Two days ago I attended a foal for a punctured wound in the thigh. The injury had been received nine days previously. The owner said he wished me to see it, as it was going stiff and he was afraid it had lockjaw. All that could be noticed on moving the animal was a distinct stiffness in the movement of his legs. Coming on at the time it did, it was at least suspicious, but I could see nothing about the face or general appearance to decide me. I was of the belief that it was suffering from congestion of the fore feet. I gave it a mild aperient drench, and the stiffness passed off in a few days. I have never seen the stiffness caused by this disease localised to one part of the body. It is always generalised. But I have attended an animal for the most acute trismus, that never had any trace of tetanus about it. The trouble only lasts for a few days, and I should be glad to have an opinion as to the cause.

Twenty years ago I attended a young Shire mare suffering from tetanus in a fairly acute form. She made a good recovery. Three years afterwards she had it again, just as acute, and again made a good rather lame on one hind leg, and a large ulcer formed recovery. Does one attack of the disease confer any immunity, and how long does it last?

I have seen several cases of the disease in cattle, but never yet saw one recover. A nice heifer had it very acute, so that she could not lie down in the natural position. She stood in slings all right for a couple of days, and died. She had smashed one

A calf took it so acutely ten days after castration

that it died in a few days.

We attended a cow for milk fever on Dec. 12, 1912, on a farm six miles out. The farmer told us that she had only been delivered that afternoon by a dealer from whom he was buying her. He drew the dealer's attention to her being ill, and told him the cow would be there at his risk till she was all right. She recovered from milk fever next day, but though she fed pretty well, she seemed rather dull. On the 22nd she showed signs of tetanus, and by the 24th it became acute, and she died next day. I think this is an unusual occurrence after calving. The dealer sued the farmer in the County Court for the full value of the cow, and was successful in his claim.

I have strung these few crude notes together with the hope that others may give their experiences and opinions on this diseasc.

Stevenage, Herts. J. PATON, F.R.C.V.S.

Since writing the foregoing notes I have read with great interest the article by Mr. Lothian, on Tetanus, in last week's Record.]

During the past month several practitioners have reported in The Record their experiences of the various treatments for the cure of tetanus.

The injections of solutions of magnesium sulphate; of camphorated oil, and the open-air treatment have all come in for their share of praise. As the value of drugs in the treatment of this disease has come to be questioned, I thought it might be of interest to record that whilst in Egypt during 1915 four cases of tetanus came under my care. No anti-tetanic serum being available at that time, these four animals (two horses and two mules) were perforce to go without any treatment. They were tied up in the quietest portion of the lines and sheltered from

The only food given was chopped Burseem (green forage) and a plentiful supply of water. One mule and one horse made a good recovery. These results would appear to be identical with those recorded by Mr. Collinson in The Record for August 18th,

1917.

The question which would arise is, "Do any drugs, save narcotics, exert a favourable influence on the course of the disease?"

I am convinced that the administration of large doses of anti-tetanic serum is productive of beneficial results, but my confidence is sadly shaken in value of other drugs as applied to the cure of tetanus. "BELLUM."

EPSOM SALTS. By W. R. Davis.

You were good enough to publish some time ago a communication from me on the danger of giving, as routine treatment, doses of Epsom salts to cattle. I have recently had two fatalities in cows belonging to the same man from the exhibition of mag. sulph.

On May 18th a small farmer sent for me to attend a cow, which had calved two days previously and had not cleansed. I found the patient greatly distressed, with rapid painful breathing, high temperature, fast pulse, and with abnormal sounds on both sides of the chest. The owner informed me that three weeks previously the cow had fallen into a pond, and he was inclined to attribute her illness to the immersion. I elicited, however, that the difficulty of breathing had only been observed after the cow had received a cleansing drench consisting of salts and gentian.

The animal died the same day, and the postmortem disclosed traumatic pneumonia as the cause of death—a part of the drench had gone the

"wrong way."
On July 6th the same farmer sent for me to attend another cow suffering from constipation. He had back-raked the animal and removed a quantity of very hard pellets of dung. Two drenches, each containing one pound of Epsom salts, had been administered. On palpating the left flank a mass of solid ingesta could be made out. The cow was unable to rise; temperature subnormal (99), pulse rapid and difficult to take at the fetlock, extremities cold, eyeballs retracted, eyelids partly closed, tears running down the face; a faint grunt accompanied each respiration. Treacle and stimulants (am. carb. et ether) were administered, but the patient succumbed early the following morning. This small farmer's amateur doctoring cost him about £75—a rather serious loss for a small man.

SWINE FEVER.

I happened to find in my grip a copy of The Record for March 17th, which probably I had not time to read on receipt. In it is a paper on Swine Fever, read before the Midland Counties V.M.A. by Mr. J. O. Powley, of the Board of Agriculture. Speaking of "methods of spread," I think he omitted a very important one—the rat. There is no haunt the domestic rat loves more than a hog pen, and one bis die. The next day I gave a bol. alt., conno food he likes better than the pig's; further, he taining aloin 5i, nux vom. 5i, zingib 5ii, and pot. is some traveller, and has a habit of suddenly leaving one abode for another. I have known them and morning for about nine days—sometimes with leave the stock-yard and then appear in the hedgerow of a corn field, nearly half-a-mile away. have several times cleared my farm buildings of was some fetor. The pulv. feb. were continued for rats, but as many times had new importations from my neighbours. I have reason to think those who irrigated once a day. keep pigs sent me most, and they were in the best condition.

a certain rat poison in the ricks the day of reckon-morning. The animal did not lie down for some ing arrived, and shortly following threshing opera- time, which may have helped the wound in the way

tions I lost a real good young pig (no more rat poison for me). Post-mortem: inflamed stomach, etc., which left me a sadder, but wiser man.

When in Cincinnati, U.S.A., I remarked to the manager of the stock-yards, "You have some rats." His reply was, "Yes; but they often leave us, and we don't see anything of them for quite a while. We don't know what makes them move.'

They carry hogs in most of the large stock-yard pens in the U.S.A., and the great prevalence of of swine fever out there somewhat confirms my opinion. The only feed the hogs get in the States is corn (Indian) on the cob, with a supply of water. The farmers keep them in the open, and all run together; I have seen a boar and little pigs a few days old laying down side by side.

I guess if the Board of Agriculture would exterminate the rats, they would mighty soon reduce the outbreaks of swine fever. Any way, that is the

opinion of

JOHN BLAKEWAY, F.R.C.V.S.

At sea, Aug. 28.

AN EXTENSIVE WOUND.

The subject was a grey, four-year old, half-bred mare, in gross condition, running out at grass with three other colts; something startled them, they galloped down the field they were in, through a gateway on the clapping post of which was an old, bent catch projecting. They all jammed through together; the colts shouldered the grey mare against the catch with such force that it entered on the near side, about 3 inches below the withers and tore open the skin and tissues underneath right away to the hip. The mare continued to gallop with the others for some considerable time after, and as she went the cut side fell down and she kicked at it all the time.

At length the mare was caught and taken into a loose box. I got a man to hold the side gradually up while I put 16 strong tape stitches in, which had been soaked in creolin and oil, equal parts, taking a good hold of both edges of the skin. Afterwards, I cut a slit about 4 inches long at the most dependent part, syringed the whole side out from the top through this lower opening with tinct. iodi. and water, then gave the mare a fever draught with chloral 3ss and two bols. stim., and left six fever powders, containing mag. sulph. and pot. nit aa 3ss, nit. 3ss. The wound was well irrigated out night Lysol, another time sol. iodi., or creolin, and a few times with hydrarg. perchlor. 1 in 1000, as there a time, and later tonics were given, and the wound

It being summer time, the mare was kept chiefly on grass or young clover for the first week, then A word of warning! Once, after liberally using she was allowed a feed of crushed oats night and of giving it rest; but beyond being feverish for a few days (102F.) she went on well. No end of rubbish, hair, fat and clotted blood came from the is a disadvantage in considering the question of bottom slit for some time.

I thought myself fortunate that neither pleurisy

nor septic infection supervened.

I saw two freaks of nature recently which are uncommon, namely, a sow with a litter of pigs, all healthy, but they were born without eyeballs, the orbits being perfectly empty; the pigs showed that they had very acute hearing.

The other freak was an hermaphrodite, namely, a gilt pig showing two well-developed testicles but no penis, of course, she urinated per vulva. I have seen a few combining both sexes of the equine and

bovine species, but not of a pig before.

W. CURETON, M.R.C.V.S.

ABSTRACTS FROM FOREIGN JOURNALS.

OBSERVATIONS UPON THE SYNGAMUS BRONCHIALIS.

While there is an ample literature concerning the Syngamus trachealis, which is common in the pharynx and trachea in farm-yard poultry, very little is yet known of the allied species Syngamus bronchialis. The latter worm was exactly described for the first time by Mühlig, after which little has been said of it. W. Feuereissen has therefore undertaken a new research, which he reports in Die Zeitschrift für Fleisch. und Milch hygiene of this year.

Feuereissen first studied a young goose, coming from a flock of twenty-five which had fallen ill after having several times being in a muddy pond. Many of them died, having shown asthma, loss of appetite,

and debility.

Post-mortem, the author found 72 strongylides in the trachea and in the bronchi of this goose. The trachea contained 11 fairly large reddish worms; while the bronchi contained numerous others of analogous appearance but of whitish colour, which had penetrated even into the finer bronchioles. The large worms were attached by the head to the mucous membrane of the trachea: but the majority of the others were not attached to the bronchi. About one-third of these parasites were in copulation, which was less firm than that seen in S. trachealis. The author's observations confirm in general the exact zoological description given by Mühlig, except that he found the worms a little larger than the older worker.

In a second young goose, the trachea and lungs were free from strongylides; but, at the time of examination, the carcase was almost completely decomposed, and invaded by the maggots of flies. The right portion of the abdominal air sac was swollen from the presence of a caseous exudate fragments and eggs of strongylide. This showed that these strongylides can penetrate into the vacuoles of the avian air cavities - a fact which should be borne in mind when making post-mortem examinations.

The evolutionary cycle of the S. bronchialis, like that of the S. trachealis, is not yet known; which combating it.—(La Clinica Veterinaria).

[A description of S. bronchialis is to be found in Macqueen's edition of Neumann's work on Para-

sitology.—Transl.]

BOVINE MORTALITY IN GERMANY CAUSED BY SIMULIUM REPTANS.

In the districts of Neustadt and Fallinghostel, Prussia, a disease has appeared for ten years which regularly causes the death of a large number of animals at pasture, generally a little time after they have been placed there (April and May). The disease almost always affects cattle, and only rarely horses.

In May, 1913, 46 cattle and 5 horses were affected in the two districts. Of these, 29 cattle and one horse dicd. In 1914, in the district of Neustadt, 42 cattle died at pasture in a few days. In 1915, the damage was less severe. The disease always diminished when the farmers kept the

animals indoors.

Investigation of the disease by Matthiesen and Beutler demonstrated that the death of the animals followed punctures made by the Simulium reptans, which abounds it the pastures in question. The affected animals showed great nervousness, continually moved about the pasture, and sought to free themselves from the Simulium. Upon the bare parts of the body—the pavilion of the ear, the udder, and the abdomen, numerous punctures resembling those of fleas were found, which were often bleeding.

Nothing is certainly known of the nature of the disease caused by the Simulia. Damman and Oppermann have believed that in some cases it may be a hæmorrhagic septicæmia, because they have noticed the presence of the bi-polar bacillus

in S. ornatum.

In 1916, also, S. reptans made numerous victims among the animals at pasture. The atmospheric temperature, which remained comparatively low till April 20, now rose gradually, and thus enabled the flies to appear in great numbers and to infect cattle and sometimes horses also

Matthiesen and Beutler went immediately to the district of Neustadt. They were able not only to observe a large number of animals ill or dead, but also very often to determine the situation of the infested pastures and the epoch of the appearance of the disease. They found the pupe of the Simulium in flowing water, even in pastures which up to that time had remained immune.

In attentively observing the hæmorrhages of the skin in dead animals, a black point was noticed in the middle which represented the canal of the puncture. The cardiac muscle showed capillaries heavily filled with blood, and degenerative changes. Bacteriological examination of the cardiac blood, the lymphatic glands, and various parts of the spleen, gave in general negative results. Only some B. coli were found; and these had probably entered the organism after death. Mice inoculated with the material examined remained alive.

The symptoms of the disease often appeared very rapidly, sometimes only a few hours after the puncture: this interval probably depends upon the quantity of poison or virus introduced into the organism. Death or recovery may appear at very

different periods.

In cattle, the parts more frequently puncturedthe udder, scrotum and flanks, were never swollen, but the corresponding lymphatic glands fairly often were. Swellings were seen under the throat and in the neck; these resulted from cardiac debility which was caused by the intoxication, and exercised more or less influence upon the brain. When lying down, the affected animals often assumed positions similar to those of cows in milk fever, probably as a result of cerebral anæmia. They ate and digested with difficulty, showing weakness in the peristaltic movements; but there were no cases of fever. Twothirds of these affected animals died.

It is probable that animals which have been at pasture for some time are less susceptible to the

punctures.

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Since 1914, in the province of Hanover, farmers have been officially advised to keep their animals away from the pastures during the time at which Simulium appears in great numbers, and especially in April and May. Instructions, however, though published in each spring, did not prevent great losses of cattle in 1916. Good results were finally obtained by a police order published at the end of April, 1916, prohibiting the pasturage of cattle in the threatened districts before May 15, except upon cold and rainy days, and at night. This was supplemented by official advice to farmers not to pasture cattle on warm days for some time after May 15, which proved equally efficacious. Matthiesen and Beutler recommended that the same prohibitive regulation should be adopted in 1917; the period of interdiction to be lengthened to run from April 1 to June 1.—(La Clinica Veterinaria).

AUSCULTATION OF THE UTERUS IN THE SMALL ANIMALS.

Bedel, in 1912, made a communication to the Central Society of Veterinary Medicine on this subject, commencing with a historical survey. Dr. Mayer, a surgeon of Genoa, was the first to recognise the heart beats of the human foctus by auscultating the abdomens of some women near the end of pregnancy. This was in 1818. Since that time, and especially after the communication of Lejumeau of Kergaraded in 1821, this phenomenon has been the subject of many works by medical men, to whom it renders important services.

In veterinary medicine Lafone, in 1857, was the first to announce that the pulsations of the feetal heart are sometimes perceptible, though feebly so. He detected them in some cows which had reached the sixth month of gestation. Almost at the same time Hollman made a similar discovery. Saake, Saint Cyr and Violet, Lucet, and others, afterwards Saint Cyr and Violet, Lucet, and others, afterwards examinations, and the diagnosis of inspectors in the published works on the subject. All these works field is immediately reviewed at the Board's Laboratory

he published his work on veterinary obstetrics in 1900, the feetal heart beats had been detected in this animal alone.

Bedel has been able to hear these pulsations in the bitch, ewe and goat. He used a small phonendoscope called a "universal stethoscope," or "stethoscope-phonendoscope." With this it is possible to clearly distinguish the pulsations in the small domestic females, and consequently to affirm the presence of one fœtus or of several, according to the number of centres of auscultation found.-(Revista de Higiene y Sanidad Veterinaria).

W. R. C.

CONTROL OF SWINE FEVER.

The following details of procedure and results in the endeavour to control Swine Fever form the major portion of the Annual Report of the Chief Veterinary Officer, B. of A., for 1916, recently issued. The arguments which lead up to the procedure were given at the meeting of the Midland Counties V.M.A., in February last (V.R., pp. 384, 394).

An interim report on the results of the serum treatment for the first quarter after its introduction was published in 1916, together with a comparison of the old method of dealing with the disease and the new. It is now possible to report on the results over a period of twelve months starting from the date of its introduction September, 1915—and extending to September, 1916.

The observations are unique in the sense that this is the first time that general serum treatment, together with quarantine restrictions on infected premises all over a country, has been tried as a life saving and economical policy. It seems desirable, therefore, that the plan of the operations should be outlined and the results so far obtained reported upon with some fullness.

METHOD OF IMMUNISING

(a) An adequate number of veterinary practitioners appointed from time to time in various parts of the country act as Local Veterinary Inspectors of the Board, and visit reported outbreaks when instructed. The services of these inspectors are supplemented by Assistant Veterinary Inspectors, Veterinary Inspectors, and Superintending Veterinary Inspectors whose time is wholly employed by the Board on work in connection with discases of animals.

(b) All Veterinary Inspectors are provided with a supply of serum in convenient form from the Board's Laboratory, and are instructed to keep up their supply by immediately applying for more as their stock is

drawn upon for use in connection with outbreaks.

(c) The serum issued is mainly centrifuged serum but owing to the amount required and shortage of staff a considerable amount of defibrinated blood had to be issued in place of serum. The doses instructed to be given are according to the estimated weight of the animals; in the case of defibrinated blood they are higher

than when serum is used.

(d) On receipt of a police report by wire that swine fever is suspected to exist, the Board instruct by wire the nearest Veterinary Inspector to visit the premises and make a diagnosis. He is instructed generally to take with him a reasonable supply of serum. The diagnosis is arrived at by inquiry, including post-mortem relate to the cow; and, according to Bournay, when to which the viscera are sent together with the veter-

sent, at the office. Should the visiting Inspector diagnose swine fever, he, without waiting for confirmation of his diagnosis, carries out treatment with serum if the owner agrees. Should the first diagnosis be wrong in the sense that further inquiry shows swine fever not to exist nothing further happens. Should the Veterinary Inspector report that disease does not exist, and it is found by the investigation at the Laboratory that the disease is swine fever, an Inspector is immediately in-

structed to re-visit and offer serum treatment.

(e) The acceptance of treatment by the owner is at his option. Should he accept, and treatment is applied to all or a portion of his pigs, he is advised to allow the healthy pigs treated on the infected parts of the premises to mix with the affected pigs, in order that they may have the opportunity of acquiring lasting immunity by contact with infection while under the influence of serum. As the resistance bestowed by serum lasts only for about ten days, after which the pigs again become susceptible to swine fever in a fatal form if direct contact with infection is not obtained previously, the only alternative to allowing the treated pigs to mix with the ailing is to give repeated doses of serum until all the ailing are dead or recovered; but that is not practicable in dealing with thousands of pigs all over the country, and the aim has been rather to get the greatest benefit practicable under the conditions which obtain in practice. When large numbers of healthy pigs are in contact, so that it is impossible to bring about proper mixing, second, and even third doses of serum are sometimes given, according to the circumstances of the outbreak.

(f) Veterinary Inspectors, by instructions, pay periodical visits to the outbreaks, and report as to the condition of the pigs. It is from these reports that the records of the results of treatment have been compiled

after analysis in each case.

(g) Healthy pigs may by licence be moved off infected premises for immediate slaughter, and other pigs may be moved on for fattening purposes, the latter being usually treated with serum on arrival. The owner is thus able to continue his pig-feeding business at least, although infection may be present on his premises.

(h) During the first part of the period the Board thought it advisable for purely administrative reasons to give owners the option of having all pigs visibly ill from swine fever on the day diagnosis was made by the above figures that, viewed from the death-rate alone and Veterinary Inspector slaughtered with compensation. Some owners availed themselves of this option, others preferred to keep the ailing pigs for purposes of mixing with healthy pigs under the influence of serum. From the 25th of June this partial slaughter of ailing pigs was discontinued.

During the twelve months under review the proportion of suitable cases in which serum treatment was accepted, though not necessarily for all the pigs on the premises, was 83 per cent. In the remaining cases owners declined in 409; in 1008 cases (usually small piggeries) no pigs were left for treatment; in 456 cases the conditions were unsuitable (whole of stock infected, or disease confined to one well isolated group); in 431 cases the owners slaughtered all their healthy pigs for food rather than risk further losses. In 20 cases serum

treatment was not offered.

Certain pigs on infected premises were not treated—for various reasons, and these may be grouped as follows:—(i) the pigs were intended for immediate slaughter, or owners declined for certain pigs, usually because they were meant for slaughter at an early date; (ii) the pigs were considered not to be exposed to infection on account of the arrangement of the sties, or because they were born or moved on to the premises isolated during the outbreak. after acute infection had died down: (iii) owners having had part of their herds treated sometimes changed from the beginning (original stock), 9577 were born

inary report, or, in certain cases in which viscera are not | their minds as regards the remainder; (iv) in the case of weakly suckers it was often deemed advisable not to

Augregate of Treatment. During the twelve months referred to serum treatment was applied in 2100 outbreaks, in which 77,900 pigs were involved. For reasons which have already been outlined, and because a considerable number of the pigs were dead or ailing before the Veterinary Inspectors were put in touch with the outbreaks, the number of pigs treated, though large, was considerably less than the total number involved. The whole figure, however, made up as it is of separate cases which have been carefully compiled by the Veterinary Department after analysis, is a useful one for comparison (so far as such comparison can be made) with the whole figures relating to those outbreaks which were not treated by serum during the same period. The latter figures, however, were not compiled for this purpose, nor were they available for the same form of analysis as those relating to serum-treated outbreaks, and they do not include the complete details necessary for a full comparison. Nevertheless, a useful comparison

can be drawn between the whole figures in each case.

Of the 77,900 pigs included in the outbreaks treated with serum the total death-rate from swine fever, which included a large number of deaths in pigs which for various reasons were not treated, amounted to 34'6 per cent. The number slaughtered for food during the outbreaks amounted to 25'8 per cent. The number freed at the end of the outbreaks amounted to 386 per cent., which included a large proportion of the breeding stock, most of the stores having been slaughtered in accordance with the object for which they were intended. Deaths from other causes than swine fever

are omitted.

During the same period 38,229 pigs were involved in outbreaks on premises upon which serum treatment was not adopted. The total death-rate amounted approximately to 52 per cent. The number slaughtered for food during the outbreaks, often at an early stage to save their commercial lives, amounted approximately to 33.2 per cent. The number freed at the end of the outbreaks amounted to only 14'8 per cent. In both cases the death-rate is calculated in relation to the total number involved.

The claim for serum treatment is that it saves pig life on infected premises, and it would appear from the under the conditions obtaining in practice, without taking into account special benefits, such as conservation of breeding stock and business, there was a benefit of 17.4 per cent. in favour of the pigs on premises where serum treatment was applied, notwithstanding the fact that the deaths on these premises included a very considerable number of pigs which for various reasons were not treated.

ANALYSIS OF RESULTS.

From the notes on observations made in connection with each outbreak in which treatment was adopted, it is possible to make a more detailed analysis of the results as a whole and to comment on several points of importance in connection with the application of serum treatment for swine fever in practice.

(1) Of the 77,900 pigs (average in herd 371) 10,085 (12.9 per cent.) were dead of the disease before treatment was adopted; these are included in the death-rate in viewing as above the results of treatment as a policy under the conditions obtaining in practice. Before treatment a further number, 1851 (2.4 per cent.) considered to be healthy were slaughtered for food. The remainder, 65,964 (84.7 per cent.), constitute the stock

(practically all of them from sows which had been treated), and 1700 new pigs were moved on to the premises during the period of isolation. Obviously some of them must have encountered a less degree of infection than others, according to the stage of the outbreak at which their advent took place.

Of the original stock, 41,788 were treated with serum; 6773 apparently healthy pigs were not treated for one of the various reasons already outlined (the greater number are known to have been destined for almost immediate slaughter, and were slaughtered for food), and 6126 were not treated because they were ailing. Of the pigs that were born 3967 were treated and 5610 were not treated. Of the pigs moved on during the outbreak

1262 were treated, and 438 were not treated.

(3) Serum treatment is preventive and not curative, therefore successful results depend largely upon getting in touch with outbreaks before infection has spread to a considerable proportion of the pigs. Serum is practi-cally valueless in dealing with pigs in the grip of infection before treatment. As the rule is for the Veterinary Inspectors to apply treatment to pigs which appear outwardly healthy, it is unavoidable that a number of pigs in the incubative stages of the disease may be treated, owing to their normal appearance. Of the original stock treated (41,788), 6380 (15.3 per cent.) were Of the either dead or so seriously ill at such an early date after treatment that there could be little doubt they were in the incubative stages of the disease when treated. This percentage, taken with that of those dead (12.9 per cent.) before touch with the outbreaks was obtained, appears to show that there is considerable delay in reporting sickness in swine as suspected swine fever. How much of this delay is avoidable it is difficult to say, but it puts a serious handicap on the greater success of the application of serum treatment in practice.

The extent of infection quoted is necessarily in relation to the stock (66,623) on the premises at the time of the reports. It was estimated on the number of dead and distinctly ailing pigs at the visit of the Veterinary Inspector when the diagnosis was arrived at, and those which died or became distinctly ill so soon afterwards as to leave little doubt that they were in the incubative stages of the disease at the time of that first visit.

The following Table indicates the varying extent of infection before treatment and the consequent death rate in the herds concerned in the 2100 outbreaks.

Infection of Trea		e	Herds.	Pigs.	Death- rate.
1.0 to	10 %		240	17,321	14.1 %
10.1	20		340	16,856	20.3
20.1	30		246	9,906	29.1
30.1	40		266	9,302	37.3
40.1	50		271	6,198	46.6
50.1	60		161	4,988	53.5
60.1	70		170	4,123	64.2
70.1	80		140	3,311	72.4
80.1	90		123	3,234	79.1
90.1	100		143	2,661	85.7

A further amount of important and instructive information in relation to the value of serum treatment can be obtained by comparing the happenings on the same premises in relation to treated pigs with those in the pigs which were not treated for one of the reasons already outlined, as it was almost inevitable that infection would spread to some of the latter during the period of isolation. It should be explained, however, that the two lots of pigs are not quite comparable, or the conditions were more favourable to the pigs which were not treated. The treated pigs were treated because they were directly exposed to infection; many of the others were not treated, because there was reason to

think they would escape infection owing to their isolated position. The comparison is further disturbed by many of the stores being slaughtered for food during the isolation period in both lots. It is clear, however, from the notes made on each outbreak that considerably more than half the pigs which were not treated, exclusive of suckers, were slaughtered for food shortly after disease was declared to exist, and they had, therefore, no chance of becoming infected. This is quite a good way of avoiding commercial loss from swine fever, provided the pigs were ripe for slaughter, and the valuable breeding stock is not included in the slaughter.

Many of the untreated stores, however, were slaughtered unripe, whereas most of the treated stores were kept alive and fattened, and it will be seen from the table that the proportion of breeding stock slaughtered amongst the untreated pigs was enormous—58 per cent. as against 21.9 per cent. of the treated. As a rule breeding stock is not slaughtered for food unless the animals have become unsuitable—too old, too fat, bad mothers, unprolific, etc., or when they are in danger of contract-

ing a fatal disease.

On infected premises, then, the proportion of breeding stock dead of the disease added to that slaughtered for food forms one fairly good basis for comparison between the treated and untreated, provided, as was the case, that infection eventually reached the latter in their more isolated position (see Table). The proportion of the valuable breeding stock freed at the end of the outbreaks to continue reproduction is obviously important.

The suckers which were treated in the two lots were in the infected parts of the premises from the first, and the mortality in this class of pig of delicate age was high in spite of the treatment. In more than half the suckers which were not treated, treatment was dispensed with because they were born at the later stages of the isolation period, when there was much less, indeed often no infection on the premises. The two lots of suckers, then, are hardly comparable. By far the greater number of the suckers dealt with were born of sows deemed to have been exposed to infection, and treated.

Comparative mortality including slaughter in treated and non-treated pigs of various classes on the same premises:— Combined

premises:-			Slaught'd	Combined s. f. and	Alive,
	Number.	Dieds f.	for food.	slaught'd.	freed.
BreedingStock,		p/c	p/c	p/c	p/c
treated	4,761	10.8	21.9	32.7	66.8
non-treated	459	7.6	58.0	65.6	34.5
Fatteningstores					
treated	31,303	21.6	34.9	56.2	42.9
non-treated	6,016	5.1	78.9	84.0	15.0
*Suckerstreat'd	10,953	25.0	6.4	31.4	65.6
* non-treated	6,346	20.5	1 2	217	74.9

Deaths from illness other than swine fever are omitted.

* Were not suckers throughout the outbreak.

A considerable number of swine ailing at the start were not treated but were left with the treated pigs, with a view to giving the latter active or prolonged immunity while under the influence of serum. Also it was not always practicable to treat many of the suckers which were born from day to day, say, five one day and five another, on different premises.

Recoveries—untreated. By following the fate of such animals as became affected, it is possible for the first time since swine fever was scheduled to form an approximate idea of the proportion of untreated pigs which may be expected to recover from an attack of swine fever in average outbreaks, leaving out of account those mild outbreaks with which the authorities do not get into touch. Out of 430 breeding stock (ailing and untreated), the recoveries were approximately under

20 per cent. Out of 4927 fattening stores (ailing and untreated), the recoveries were approximately under 15 per cent. Out of 769 suckers (ailing and untreated), the recoveries were approximately under 12 per cent. [That is, the losses were respectively over 80, 85, and 88 per cent.]

Treatment of Suckers. The question of giving adequate treatment to suckers is a complicated one. They are born at odd times, and it is not always practicable to send a Veterinary Inspector frequently enough to ensure that each lot will be treated soon after birth and before they meet infection. Further, a dose of serum only gives immunity for about ten days if the passive resistance is not converted into active or lasting immunity by direct exposure to infection while serum is acting. In many cases, however, the suckers escape contact with the infection during the first few weeks of

life, before they begin to run about freely.

Theoretically, then, suckers to be adequately protected should receive repeated doses of serum, about every ten days, until they are old enough to have mixed freely with the older pigs in which infection still exists, or until infection has died down on the premises. This is not practicable on a large scale, and many suckers are caught by infection after temporary resistance acquired from a dose of serum has passed off. A certain amount of information on the advantages of repeated treatment of suckers in the midst of infection is available from these observations carried out under the conditions obtaining in practice. In 6756 suckers which were treated once, and of which the subsequent history could be followed, the death rate was 27.9 per cent., as compared with 14.5 per cent. in 2449 suckers which were treated twice.

LIMITATIONS.

It would appear from observations and analysis thereof, that certain limitations are put upon the results obtainable from serum treatment by the conditions under which it has to be applied in practice. limitations arise:

(a) Mainly from the authorities being dependent upon owners for immediate notice of suspected out-

breaks, and
(b) That it is seldom either practicable or useful to apply serum treatment before disease has appeared on premises; on an average, about 30 per cent. of the pigs were dead or in the grip of infection before opportunity arose for treatment.

Notwithstanding these limitations, it appears that serum treatment achieved very considerably better results at infinitely less cost than other methods tried for dealing with swine fever. It would also appear that the effect of these limitations could be lessened by earlier reporting.

Vaccination.

Vaccination is the term applied to the operation of injecting suitable doses of serum and virus simultaneously with the object of ensuring that every animal will come in contact with infection while under the influence of serum, and so obtain active or prolonged im-The advantages of such a method, if not attended by too much risk, are obvious. It would enable us to act ahead of infection instead of being compelled to follow behind it, and it would enable us to provide a practically certain method of rendering pigs swine fever proof before meeting infection.

Methods of vaccination have been tried during the year on a considerable scale on certain selected premises. There is no doubt that pigs can be rendered swine fever proof for long periods, even for life. The mortality consequent upon the methods tried so far has been too irregular to justify their introduction into general ser- with very little alteration, to the ensuing session.

vice. On the other hand, vaccination is the method which promises the greater finality, and the important question of obtaining a method suitable for application in practice is engaging attention.

Cows that swim.

Just off the shore of one of the lochs of Wester Ross there is a low silted island, on which the grass grows rich and succulent. At low tide the island becomes a peninsula joined to the mainland by a neck of shingle, but at other times it is separated from the shore by a strait about 200 yards wide at its narrowest part with a considerable tideway. The merits of the grazing on the island have long been known to and appreciated by the cattle of the farm on the mainland, and successive generations of cows have been in the habit of swimming off to it to enjoy the près salés. The cows of their own accord leave the beach, slowly advance into the salt water till they lose their footing, and then proceed to swim out. Their progress through the water is leisurely and deliberate. They swim with their bodies almost entirely submerged, their heads extended well forward so as to keep their nos rils above the surface, and the ridges of their backs just awash. Each year's calves take to the water quite readily under parental guidance, and soon learn to make the passage without any hesitation. If they feel tired on the way, they sometimes rest their heads on their mother's backs. standing the tide which runs through the channel no casualty has ever occurred, although on one occasion a cow was carried away a considerable distance and landed on another island.

Not the least remarkable feature of the performance is the intelligent selection by the cows of the days on which to visit the island. There is no fresh water on it, and, accordingly, in very dry weather the cows make no attempt to go out to it, but after rain, when the grass is moist, they never fail to spend some hours there. It is not uncommon in the West Highlands for cattle to be compelled to swim out to island grazings on a tow-rope behind a boat, but in the present case it is the spontaneous action of animals effecting a passage themselves. The sea-bathing does the cows no harm whatever, but on the contrary, seems to agree with them thoroughly and keeps them fresh and clean. Their milk is excellent.—H.P.M. in *The Scotsman*.

OBITUARY.

JOSEPH ANDREW LIPSCOMB, M.R.C.V.S., Southampton. Graduated, Lond: April, 1873.

Mr. Lipscombe died 25th August, 1917, aged 65 years.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:

A. A. Johnson, Capt. N.z.v.c. (1916, 1917)	£2	2	0
J. F. B. Moody, Lincoln's Inn, W.C.	1	1	0
P. J. Mulcair, Limerick	1	1	0
J. Thompson, Capt. s.A.v.c.	1	1	0
Previously acknowledged	864	10	0
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£869 15 0

In order to assist in the economy of paper, the authorities of the Royal (Dick) Veterinary College have decided not to issue a calendar for the session 1917-18. The particulars given in the calendar for 1916-17 apply,

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Aug. 31.

The King has been pleased to give and grant unto the following gentlemen his Majesty's Royal licence to wear Decorations which have been conferred upon them by the Sultan of Egypt :-

> ORDER OF THE NILE.—FOURTH CLASS. *

Maj. G. P. Knott, A.v.c., late Egyptian Army and Sudan Govt. Service. Maj. T. A. Nicholas, A.V.C., Sudan Govt. Service. Capt. L. Danels, A.V.C, Sudan Govt. Service. Capt. W. St. J. F. McCartney, Vety. Dept., Egyptian

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lt. to be temp. Capt.:—S. C. J. Bennett (July 25).

Sept. 1. Maj. (temp. Lt.-Col.) A. F. Deacon relinquishes the rank of temp. Lt.-Col. on vacating the appt. of S.V.O.,

Maj. (temp. Lt.-Col.) A. F. Deacon relinquishes the rank of temp. Lt.-Col. on vacating the appt. of S.V.()., British Remt. Commn. (July 1).

Majors to be actg. Lt.-Cols. whilst empld. as Asst. Dirs. of Vety. Servs.:—J. A. B. McGowan, R. C. Cochrane, F.R.C.V.S., E. B. Bartlett, G. Conder, D.S.O., J. Griffith, D.S.O., O. S. Fisher, H. Gamble, F.R.C.V.S., B. L. Lake, D.S.O., C. E. Steel, M. St. G. Glasse, W. H. Nicol, H. S. Mosley, D.S.O., E. M. Perry, T.F.. A. England, Res. of Off. (June 16).

To be actg. Majors whilst empld. as Dep. Asst. Dirs. of Vety. Servs.:—Temp. Capt. C. W. B. Sikes (June 17); Temp. Capt. J. H. Taylor, M.C. (June 24); Capt. T. J. Faithfull, Spec. Res., Capt. D. R. Williamson, Spec. Res., Capt. A. W. Reid, T.F., Capt. J. S. Bowden, T.F., Capt. J. S. Bowden, T.F., Capt. P. Abson, T.F. (June 25); Capt. F. R. Roche-Kelly, Capt. F. B. Sneyd, Spec. Res. (June 26); Capt. P. D. Carey (June 30); Capt. A. N. Foster, T.F. (July 1); Temp. Capt. W. B. De Vine, M.C., Capt. J. H. Wright, T.F. (July 4); Capt. A. B. Bowhay (July 5). Temp. Lieuts. to be temp. Capts.:—R. W. D. C. Easom, D. A. Gilmor, T. L. Wright (Aug. 1); W. H. Wood (Aug. 4); A. Carter (Aug. 7); J. Anderson (Aug. 9); J. Bell, W. M. Rouse (Aug. 15).

To be temp. Lieut.:—A. F. Lamont (Aug. 16).

Sept. 3. To be temp. Lieut.: -J. J. M. Barry (Aug. 18).

SPECIAL RESERVE OF OFFICERS.

The following Lieuts. (on prob.) are confirmed in their rank:—P. F. Woodland, E. C. Bowes, M. Farrelly.

CANADIAN A.V.C.

Aug. 30. Temp. Lt. to be temp. Capt.:—P. P. Souaillard (Sept. 22, 1914), (substituted for Gazette notification May 12, page 4,615, incorrectly describing name as P. P. Souillard).

Temp. Lt. to be temp. Capt.:—J. H. Heenan (July 1, 1915(, (substituted for Gazette notification May 12, page 4,615, incorrectly describing name as Hennan).

The Gazette notification May 12, page 4,615, regarding the promotion to temp. Capt. of temp. Lieut. J. J. O'Gorman is cancelled.

TERRITORIAL FORCE, ARMY VETERINARY CORPS. Sept. 3. Late Lieut. to be Lieut. :- E. Child, M.R.C.V.S. (Aug. 21).

Personal.

GIBBS-DU FOSSE DE BOSMELET. On the 18th Aug at Le Fossé Church, by Monseigneur de Moucheron, Cousin of the bride, Major II. E. Gibbs, A.v.c., elde son of Mr. and Mrs. H. F. Gibbs, 17 Abingdon Court, W., to Yvonne, only daughter of Baron and Baronne du Fossé de Bosmelet, Le Fossé, Seine Infèrieure, France.

POISONING IN CATTLE BY RAGWORT

Sir,—You state in your editorial notes of the last issue of *The Veterinary Record* that the first definite warning that the agriculturist in this country has received as to the poisonous nature of Ragwort on cattle is contained in an account of feeding results prepared by the Chief Veterinary Officer to the Board of Agriculture (Ireland). This statement is not correct. Some years ago there appeared in *The Veterinary Record* a communication from Professor Gilruth, in which attention was called to the fact that ragwort was frequently a cause of cirrhosis of the liver in horses and cattle, the symptoms consisting in jaundice, ascites, diarrhoa, wasting and weakness, and that experimentally two six-months-old calves, after daily feeding with ragwort, succumbed to liver cirrhosis.

[It is possible, though doubtful, that Mr. Gilruth's note on poisoning by S. Jacobea may have appeared in an Agricultural Journal in this country. It is probable that at the time it appeared in these pages it had already appeared in the Agricultural Journals "down under." The point of last week's comment was that the old view, that diseases were invented for the benefit of the veterinary profession—a view tacitly implied by some of the older men in the past, is giving place to a rapprochement of the Veterinary Dept. B. of A. and the agriculturist, and that is slowly helping to place the practitioner in his rightful position—that of a skilled and trusted adviser to maintain the health of the stock. We are indebted to our correspondent for his addendum to the note.]

VETERINARY STUDENTS IN THE ARMY.

Sir,-On this subject I should like to record my views

from the veterinary students' standpoint.
"Looking ahead" points out that there are only a few, if any, students serving in the A.V.C. The chief reason for this is, as always, young men have that instinct towards promotion which the A.V.C. denies them. A veterinary student in the A.V.C. to-day cannot give more professional assistance than that margined to a sergeant. Above that rank they become disciplinarians, and have little or nothing to do with the treatment of sick horses.

Little profit can a student gain from what he sees when attached to an unit at the front, as all serious cases leave him by L. of C. as soon as they are dressed, and he loses sight of the procedure of his "interesting case." A student attached to a hospital may benefit by experience.

Take the other student, who joined another branch of the service, he is open to promotion according to his merits. I have a student friend of this class who is O.C. of his unit with a temp. rank of major, while I, only a few yards away, and of about the same qualifications, am acting sergeant in the A.V.C.

A veterinary student who has served pupilage for two or three years under a good practitioner and a few years in Veterinary College, should be capable of holding a higher rank than the A.V.C. offers him, where horses are con-

Again, I do not think that this major would return to College for a couple of years, to be drafted out here again as a Second Lieut. in the A.V.C.—if the war is going to last a long time.

AT THE FRONT.

Alleged cruelty to a horse at Folkestone.

Before the Elham County Bench, on Thursday, Aug. 30 J. Coppings was summoned for working a mare while, in an unfit state, and C. Bishop was charged with causing the animal to be so worked, while T. H. Savage was summoned as the owner for permitting it to be worked.

Inspector Rodwell, R.S.P.C.A., stated that on the 8th August he saw Coppings. He told him that he understood that that day he had been taking a horse which was badly lame along Cheriton Road, and that he was stopped by a lady. Defendant replied, "Yes, and on Monday I was also stopped by some workmen because of the lameness, but I forgot to tell the foreman." Witness saw the horse at the stables at Cheriton, in the company of defendant Bishop. The animal was suffering, but in excellent condition, and clean. Its suffering arose from ring-bone, side-bone, and deformed foot. The joints were very stiff. Bishop stated that he considered the horse all right to do a bit of ploughing.

Miss Alice Morris, Ashley Avenue, stated that she saw the horse in Cheriton Road, very lame and evidently suffering great pain. She stopped the boy and examined the off fore-leg of the horse. The tendons were hot and inflamed, and the foot generally contracted. Cross-examined—witness said the boy told her he was taking the horse back to the stable because he had been stopped

by a police constable.

Mr. H. B. Eve, M.R.C.V.S., described the diseases of the foot which made the mare lame, and which were sufficient to cause great pain. He said it would have been a very humane thing to have had the animal destroyed. The mare had evidently been unnerved at some time, and the nerve had evidently grown again. In his ones.—Folkestone, Hythe, Sandgate, and Cheriton opinion the mare was quite unfit for work of any kind.

Mr. Coleman, M.R.C.V.S., a member of the Council of the College, and Veterinary Officer for Swindon, said he saw the mare on the 29th August in company of the Inspector of the Society and Mr. Eve. He corroborated the evidence given as to the diseases which caused suffering, and concluded that an operation had been made on the foot which was deformed. When he saw the animal it was in great pain, but he should say in less pain than on 8th August.

Mr. Savage said he did not himself understand horses. He purchased this one for light work on the land only. It had been drawing a plough for a day or two before it was stopped, but had not worked for quite a week before, because there was not much to do. It had been

ploughing up potatoes only.

Mr. Clyde, M.R.C.V.S., of Dover, stated that the mare had a club foot, and nine or ten months ago he performed an operation on the foot to prolong its usefulness. He did not think there was much difference in its condition then and now, and it was quite fit for ploughing up potatoes. For a person who knew nothing of horses it was quite possible to think that there was no cruelty; in fact, he did not believe it walked in pain.

The Chairman: Not when there is heat? Witness: The term heat I have no faith in; it is a mere term, which means practically nothing, and is of

The defendants Bishop and Copping having given evidence, the Magistrates saw the horse outside the court-house, and after a conference in private, the Chairman said the owner would be fined £2, and Bishop, the foreman, £2. The boy, who was carrying out the foreman's orders, was ordered to pay the costs of the sum-

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.			
			Out- breaks (a)	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.	
GT. BRITAIN.				1	1	i				1		i		
W	eek en	ded Sept	. 1	6	6					27	40		28	15
Corresponding	1	1916		7	9			1	1	13	27	2	63	32
week in	1	1915 1914		6	6 9	3	17	1	1	8 2	16 2	1	56 52	175 180
Total for 35 weeks	s, 1917			328	376			18	32	1877	3649	395	1715	747
Corresponding	(1916			443	1	24	36	91	1692	3816	184	3296	8621
period in	1	$1915 \\ 1914$		418 518	478 564	14	91	37 73	66 219	581 1521	1263 2633	160 153	2992 2821	13329 28939

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. (1) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :-Board of Agriculture and Fisheries, Sept. 4, 1917 Excluding outbreaks in army horses.

I RELAND Week ende	d Aug,	25							Outbreaks 1	8	5	15
	(1916								1	11	5	36
Cerresponding Week in	1915								3	7	3	34 23
	1914								1	5	3	23
Total for 34 weeks, 1917			3	5			1	1	37	261	174	1043
	(1916		3	7					47	273	219	1233
Corresponding period in	1915		1	1			1	3	52	292	173	983
	1914		1	1	76	957			59	385	153	767

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug 27, 1917 Note -The figures for the Current Year are approximate only. As Diseased or Exposed to Infection

VETERINARY

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1523.

SEPTEMBER 15, 1917.

Vol. X.A.

SWINE FEVER.

The account recently published by the Board of Agriculture of the progress of serum treatment against swine fever is of great importance. This is the first attempt made in this country to deal with the disease therapeutically; and the records and statistics of a full year of its application in outbreaks involving nearly 80,000 pigs are sufficiently extensive to warrant a judgment upon the merits of serum treatment. Country practitioners will do well to carefully study the details upon which its conclusions are based; and there will be little if any difference of opinion among those who take the trouble to do so.

No one will call serum treatment an ideal method of dealing with swine fever. The limitations of its usefulness are obvious and serious; and they are increased by the conditions under which the treatment generally has to be applied in practice. Admitting all this, it may be asked whether serum treatment is worth adopting; and here there can be no two opinions. The report proves conclusively that it is of great value, and can do more for us than any of our old methods. It very distinctly reduces the losses from swine fever, and enables pig-keeping and pig-breeding to be carried on upon infected premises, holding the disease largely in check meanwhile. Sir Stewart Stockman's claim that it has "achieved considerably better results at infinitely less cost than other methods used for dealing with swine fever" is fully borne out by the statistics. It is the best agent against this disease that we have found yet; and our business is to see that the best use is made of it until a superior substitute becomes available.

To ensure that the best use is made of it will be far from easy. The great disadvantage of serum treatment at present is that an amount of infection generally exists in a herd before it can be applied. It is better to face the fact at once that a great deal of this difficulty will always attend the treatment. In a disease so insidious as swine fever often is, it is inevitable that infection will frequently make considerable headway unsuspected, despite even the best supervision. We may grant that without admitting that the present delay in applying the treatment cannot be lessened.

30% of the pigs in the herd were dead or infected before treatment could be commenced. Is swine with glottic spasms threatening to bring about fever generally reported with such promptitude immediate death. He rallied however, in a few that that average could not be sensibly reduced? seconds got on to his feet again, staggered about Few country practitioners, we think, would answer for a minute, and then came to a standstill with

the first thing to do to ensure the best chance for serum treatment is to work for a speeding up of reporting. Owners must be taught the action and efficacy of the serum, and shown how greatly its utility is dependent upon prompt reporting; and probably no men could do this instructive work so successfully as country veterinary surgeons. During a time of unprecedented difficulty, the Board of Agriculture has initiated a new campaign against swine fever, and has proved that the change is in the right direction. It remains for the profession to second the Board's efforts in popularising the

new method throughout the kingdom.

The brief references to "vaccination" against fever contained in the report will arouse much interest. Work upon a considerable scale is still going on with the object of discovering a reliable vaccination method. Some success has been obtained; but not enough, so far, to justify the introduction of the method into practice. The Chief Officer speaks guardedly but hopefully of the prospects of ultimate success along this line; but at present we must be content with serum treatment. We may confidently accept that as the best agent against the disease that we have ever had, and do our utmost to increase its employment.

NOTES ON DEVELOPMENT OF ŒSTRUS LARVE IN THE PHARYNX OF THE HORSE.

By Major G. T. Cannon, s.a.v.c.

At the end of March, 1915, whilst in charge of the Base Veterinary Hospital, Luderitzbucht, German South West Africa, I admitted for treatment a horse suffering from violent paroxysms of coughing. On arrival at my depot the horse stood with its head near the ground and a profuse flow of ropy saliva was coming from the mouth, breathing slightly increased, temperature normal. Examination of the throat and submaxillary revealed no swelling; and no obstruction could be found along the course of the œsophagus.

Upon elevating the head for the purpose of making an examination of the mouth the horse struck During the year's treatment, on an average about out and stamped with both fore feet, walked backwards, coughed violently, and fell on his side that question in the affirmative; and it follows that legs straddled, his head extended in a line with the

neck, facial expression distressful, much champing of the jaws, rapid efforts at deglutition; clicking sounds were emitted, and the salivary evacuations enormously increased.

I came to the conclusion that the horse had a

foreign substance lodged in the throat.

After allowing some twenty minutes quietude the mouth was cleared as much as possible of mucous accumulations, and by leaving the head in a position indicating most comfort to the horse examination was effected, but without the presence of any foreign body being located. My interference, nevertheless excited another fit of coughing but with less alarming results. The mouth was flushed with a solution of Ac. boric and Alum, a Mustard liniment and cotton-wool pack applied around the throat, and Belladonna and Pot. chlor. electuary prescribed tion was not afforded me at the time, but specifor the tongue.

Several hours later the horse was standing quiet, but listless and depressed, the salivary flow from the mouth continued. Food was refused but water water to return through the nostrils, and efforts

were made to restrain coughing.

The following day I found his condition the same. Any attempt to elevate the head was resented, and threatened to bring about further paroxysms of coughing, so disturbance in this manner was carefully avoided, as it was noticed the cough was less frequent and severe whilst the head was depressed.

The cause of the intensely inflamed condition of the throat puzzled me considerably. The temperature remained normal, no complications were presented, and no swelling of the throat became visible, although slight manipulation of this part stimulated deglutition and threatened to excite coughing.

At the end of the third day no appreciable improvement in the animal's condition was indicated, tunity of introducing them to two cases, so I decided to dress the throat with a dilute solution of Tinct. iodine and Glycerine. This was accomplished by means of a mop made of cotton-wool secured on the end of a stick. The applications caused the horse much distress, and upon withdrawing the mop I discovered numerous larvæ of by rail 13 July, /16, arrived at Remount Camp, the Œstrus family adhering thereto. A second Kajiado, 15 July, /16, and admitted to my Lines and third application later brought about similar 17 July, /16. results.

On the fifth day a marked improvement was noticed; salivary evacuations were much reduced, cough less painful, the head was restored to normal position, but food was refused until the next day, when an attempt was made to swallow some gruel, a considerable portion of which was returned through the nostrils.

The mopping process was continued with success, and gradually day by day the powers of deglutition were much improved and the appetite restored. Necessarily the horse had lost much condition, but he was ultimately fit for discharge in about 34 days

from date of admission to hospital.

During this period I was favoured at intervals by the arrival of ten more horses, all presenting the chain of symptoms already described, but in varying degrees of intensity. Having discovered the cause of their troubles to be the presence of Œstrus larvæ

involving the pharynx, the application of the mop and Iodine treatment was promptly pursued, and the disappearance of alarming symptoms became immediately progressive. In every case food such as bran and grass was refused for some days, but water was always accepted, and preferred to gruels.

In no instance was a discharge from the nostrils observed except when an attempt was made to swallow liquids. Not one of the eleven cases brought under treatment registered a temperature higher than 101.2, and complications were not recorded. The cough in all cases was moist, and represented a series of expulsive efforts in rapid succession, the inspiratory efforts being as it were choked off.

An opportunity to make a post-mortem examinamens of the larvæ were collected for exhibition and further investigation. These were shown to numerous veterinary officers in the field, and it appears that no similar cases had come to their notice. It eagerly taken. All attempts to swallow caused the is however probable that the disease may have occurred without its true cause being manifested.

As no records confirming my experience were forthcoming, and no further cases brought under my personal observation, I was beginning to wonder if it was possible the eleven cases I had encountered could be due to an accidental invasion of the pharynx by larvæ of the œstrus equi. However, I have been favoured with further experience on the subject since my arrival in British East Africa. Four horses suffering from the same disease have been brought on my charge at No 1 Base Veterinary Hospital, Kajiado.

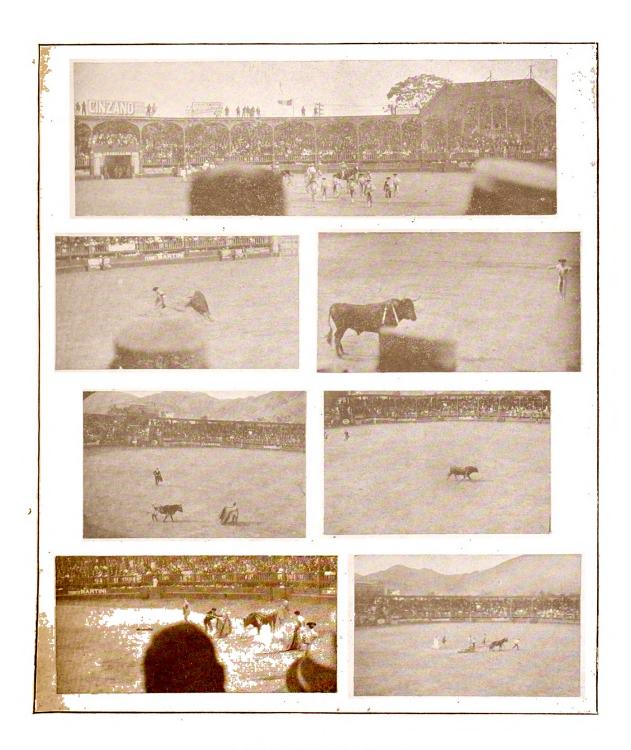
On the 17th Aug., 1916, Lt.-Col. Stordy, D.D.v.s., and Major Montgomery, Veterinary Pathologist, visited this Depot, and I gladly took the oppor-

(1) Ches. Gelding T 741, forwarded from the Remount Depot, Nairobi, 11 Aug., /16, arrived at Remount Depot, Kajiado, 12 Aug., /16, was brought on charge for treatment on the 16 Aug., /16

(2) Ches. Gelding W 1078, sent from Kilindini

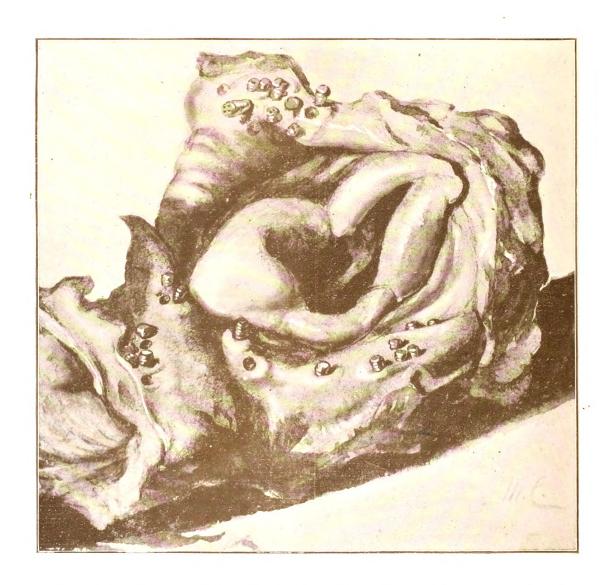
Horse No. T741 had pleurisy complications, and died on the 17 Aug., when Major Montgomery undertook the post-mortem examination. opening the thorax a quantity of water was liberated, the lungs were shrunken, and the pleura wholly involved with inflammatory deposits of a creamywhite colour adherent to the ribs, spleen much enlarged but firm, liver normal. The stomach contained a tablespoonful of sand, about a gallon of water, and numerous bots attached to the mucosa. The bowels contained only watery constituents, like the stomach were free from inflammatory lesions. The larynx and pharynx were removed; the former was normal, but section of the latter revealed the presence of several clusters of cestrus larvæ attached, although many had been removed by previous dressing, with perforations and ulceration clearly defined.

The esophagus contained over 70 larvæ along



A BULL-FIGHT IN PERU.

Note by Mr. S. H. Gaiger, F.R.C.V.S.



Larve of Gastrophilus Pecorum in the Pharynx of the Horse.

From water-colour drawing by Maj. R. E. Montgomery, E.A.V.C., Nairobi, to illustrate report by Maj. G. T. Cannon, S.A.V.C.

its course, some deeply embedded in the muscular wall, (see plate) others attached to the mucous membrane in clusters of six and eight together. There were numerous perforations, and a croupous inflammation pervaded its course. The frontal sinuses and nasal cavities were free from invasion, hence the absence of catarrhal symptoms always manifested.

Remarks. The presence of such a large number of larvæ within the osophagus was a condition hitherto unsuspected. The pleurisy complication was viewed by me as the primary cause of death, but the osophagus exhibits the presence of these parasites not only deeply embedded in the walls, but by perforations right through the thoracic section. It may therefore be feasible to assume that the perforations were primarily the cause of the pleuritic lesions; and that the larvæ at certain stages of their development are migratory.

The establishment of hydrothorax would indicate that pleurisy has existed for a considerable period, but it is conceivable that the presence of an irritant giving rise to uncontrollable fits of coughing would aggravate a rapid development of any chest com-

plication with fatal tendencies.

The premonitory symptoms of the disease are at present unknown to me. Possibly the earliest indications of disturbance would simulate sore throat and a cough of ordinary character, and thus disarm

suspicion of parasitic origin.

The absence of catarrhal symptoms, persistent nausea of foodstuffs, eagerness for water, and (complications being absent) temperatures ranging about normal, are indications which might lead one to suspect an exceptional reason for such distressing symptoms. It is possible also that a portion of the cesophagus may be located for attack, and the pharynx left uninvaded; the chain of symptoms might then take the form of choking or cosophagitis of a persistent character, the severity and duration of which would vary in proportion to the stages of development attained by the larvæ.

On no occasion during the paroxysms of coughingwas it observed that any parasites were expelled from the throat, although doubtless such a result could be effected at periods of their maturity, or

after disturbance by medical treatment.

All the cases referred to, both in Gorman South West and in British East Africa were horses imported from South Africa, and it remains to be shown whether or not the disease is enzootic.

My grateful thanks are due to Maj. Montgomery for the production of the accompanying painting* of the pharynx, which is a most excellent copy of the original conditions revealed on post-mortem

The esophagus and stomach were forwarded to Sir Arnold Theiler together with larvæ collected in German South West Africa.

Since the above notes were written Mr. Bedford, the Government Entomologist, has diagnosed the larvæ to be "Gastrophilus pecorum," and observations concerning the Gastrophilus will in due course be published by the Veterinary Research Division.

No. 1 Base Vety. Hospital, Kajiado. Sept. 6, 1916.

TREATMENT OF ECZEMA.

At a recent meeting of the Central Veterinary Society, in discussing Mr. Hy. Gray's paper on Some surgical conditions met with in the Dog, Prof. Macqueen expressed the opinion (with which the essayist seemed to agree) that a practioner who used oily lotions in the treatment of eczema was simply prolonging the case. I wonder whether this is a dictum which will be confirmed by the

general opinion of the profession.

A good many years ago I was overtaken, while walking my horse up a hill, by a local doctor. After chatting a few minutes I noticed a large jar in the bottom of his trap, and I had the curiosity to ask what it contained. "There has been an explosion in the mines," said the doctor, "and some men have received burns, and this is oil and whiting to dress them." The following week I was told that the men had rapidly recovered after being coated with the contents of the jar. As Lord Bacon said of the experiment which led to his death (stufling a fowl with snow to ascertain if it would resist putrefaction) "it did excellently well."

We know that carron oil (oil and lime water) is the stock remedy for burns in iron works. Now a burn is a dermatitis—and so is eczoma, and why the treatment for a cutaneous "insult" arising from a traumatism and another due to an unknown cause, should be held to be entirely different is more than I can understand. I have long been convinced that aqueous solutions are not suitable for many forms of dermatitis, and that a basis of oil, glycerine, or alcohol ought to be employed.

W. R. DAVIS.

TETANUS: SOME EARLIER TREATMENTS

I have read with much pleasure and interest the experiences which have lately been reported in The Record on Tetanus in the horse. It is now 65 years since I first joined the profession, and during that time I have seen a few cases of tetanus in the horse and cow, and a variety of treatment. In the old days it was bleeding to the extent of five to seven quarts, then a rattling dose of physic-from 6 to 8 drachms of aloes; and whenever it so happened that the mouth was in such a condition that a ball could be administered on the end of a cane and it operated, there was great hope of recovery. I still favour the physic ball. After the ball had been given a sheep was slaughtered, and the skin quickly removed and put hot on to the body of the horse, flesh side down, and there it remained until the patient either died or recovered.

^{*} We should have preferred to render this water-colour drawing, which is a good one, in colours, but the times are against our doing so, and we have had to content ourselves with a photographic reproduction in monochrome.— H. & W. B.

Warm water enemas were also administered, and one drachm of extract of belladonna rubbed in on the roof of the mouth night and morning, with a good supply of fluids set before the animal. Some recovered.

The next move was a dose of physic and one drachm of Scheele's Hydrocyanic acid three times a day in one ounce of cold water, put into the horse by the aid of three feet of ½-inch gas pipe. A cork was put into one end of the gas pipe, the acid and water put into the tube, the open end of the pipe was passed into the mouth and pushed gently in alongside of the teeth as far as it would go: the outer end of the pipe was bent up, and the cork withdrawn, when the fluid passed into the mouth on the syphon system. Again, some cases recovered.

Next: my old friend the late Principal Williams' mode, support the patient in slings. A pail of water suspended in front, lock the stable door and put the key in your pocket. This I consider a most sensible plan.

Then, again, comes the Hypodermic anti-tetanic serum. I have spent a bit of money on this, but sorry to say with regret and disappointment, for only one case pulled through, and I always think it would have recovered without anything.

Now for three special cases. A few years ago I had a *chronic* case of tetanus in a miller's horse. The cause a wound above the eye. The horse was put into a dark loose box with sea-sand for bedding. A brick trough was fixed in the manger in a slanting manner, so that the patient could get its mouth into the fluid offered to him without any trouble. The wound was cleansed and dressed with Tinct. ferri perchlor. B.P., over which was secured a good thick plaster of extract of belladonna. Chloride of sodium in 6-drachm doses (a little bole being added), a powder to be given in the drinking fluids night and morning. The horse was at work in six weeks.

A second chronic case—from a wound in the foot. The wound was cleansed and dressed with Tinct. ferri and extract of belladonna plaster every second day: sawdust for bedding; 3 drachms of Bromide potass. offered night and morning in drinking fluids. Recovery in about five weeks.

The third case, a Clydesdale mare, in foal: also a chronic case. No external wound could be found. Tried the Chloride of sodium, but the mare would not touch any fluid into which it was put. Then offered the Bromide, with similar results. The owner being an awful man for pouring medicines into his sick animals, this mare must have some medicine, so I then dissolved half-drachm of Succus glycyrrhyza solazzi (Spanish) in three gills of cold water, one wineglassful in the drinking fluid every eight hours. The mare consumed four bottles of the mixture, made a good recovery and foaled correct a live foal, and did well.

Now to what can we attribute the recovery of these cases? Why! to vis medicatrix naturæ.

I take it we have three degrees of tetanus—acute, sub-acute, and chronic. In the acute form fully sutures and await see 99 per cent. succumb. In the sub-acute, a few ment to the wounds.

chance cases pull through. The chronic form are those from which we get most recoveries—at least, such has been my experience.

My mode of treatment is to put the patient into a good airy loose box with saw-dust, moss litter, or sand for bedding. I prefer the latter. Place the slings under the animal and, if possible, give a dose of physic and fix up a drinking trough on an angle where the horse can reach without trouble, and offer various fluids to suck in, such as cold water, cold hay-tea, strained linseed jelly and milk, or strained oatmeal gruel and milk: trying first one and then the other, keeping the drinking trough perfectly clean. When a wound is present, dress with the Tinct. ferri, which I consider one of the best antiseptics that can be used. Nothing in my mind can beat the Chlorides. After dressing the wound with the T. ferri, cover up with a plaster of Extract belladonna, and dress every other day. An occasional dose of 1 oz. Hyposulphate of soda can be added to the drinking fluid if thought necessary, and as long as the patient can suck the fluid and swallow there is chance for a recovery. But it beats me to know how a horse with tetanus can either eat a mash, or masticate hay, seeing that the muscles of the tongue and gullet are equally implicated as well as the other muscles of the body. If the patient can eat there cannot be much lock-jaw

HENRY THOMPSON, M.R.C.V.S.

Aspatria.

ABSTRACTS FROM FOREIGN JOURNALS.

PRIMARY SUTURE OF WAR WOUNDS OF SOFT TISSUES.

Barnsby, in a communication to the Société de Chirurgie, early this year, reviews the different methods he has employed in the treatnent of war wounds at the front during a period of eighteen months. At first he opened up the wound without re-uniting it; afterwards he prepared the secondary re-union by means of Dakin's liquid and solution of magnesium chloride. It was not until May, 1916, that he was able, in a very advanced ambulane, to see recent wounds and attempt primary suture.

The author limits his study to wounds of soft supra-aponeurotic or intra-muscular sub-aponeurotic parts, which were superficial, tangential, and could be seen clearly to the bottom. Their treatmay be summarised thus:—opening up, complete excision of the edges and of the wound tract, ablation of projectiles, foreign bodies, and mortified parts, partial myectomy if the wound was subaponeurotic, very minute hæmostasia, bathing with out drainage or, if there was the slightest sanguineous exudate, leaving a small orifice for drainage in the inferior angle of the wound. In short, these wounds of soft parts were treated aseptically with ether, like fresh articular wounds.

In 312 cases Barnsby obtained 294 primary reunions; and on 18 occasions he had to cut the sutures and await secondary reunion without detriment to the wounds Primary suture is indicated when the wound is of less than ten hours' standing and is so superficial that it is wholly visible and capable of absolute cleansing. The operation should be entrusted to a competent surgeon, secure of his asepsis, well provided with material, and well assisted. It should only be attempted when post-operative watching of the wound is possible and can be continued for a sufficient period.

In recent wounds of soft parts, which are deep and accompanied by destruction of muscular tissue or considerable comminuted fractures, or in articular wounds, or in wounds of more than fifteen hours standing, or in those which are clearly infected, preference should be given to Carrel's method and to Dakin's intermittent irrigation, with bacteriological control to fix the moment of secondary reunion.—(Revista de Veterinaria Militar).

THE VALUE OF STRAW IN THE DIET.

Hubner some time ago reported some researches upon this subject, which he undertook with a definite and special object. The frequency with which equine colic is assigned to the ingestion of litter induced him to consider the possibility of excluding straw altogether from the diet of horses. He has considered the straw ration from three points of view, and concludes as follows:—

1. Straw as a food. Here the opinion is definite that straw has only a very low nutritive value.

2. Straw as a supplement to the ration. Looked at from this point of view, straw should not be excluded from the ration. It may be cut to mix with foods rich in water, such as green foods, carrots, etc., thus augmenting the quantity of dry material in the diet; or it may be added to certain foods with a view to altering the total nutritive relation. Cut straw mixed with oats favours mastication, and consequently also favours assimilation.

3. Straw as a ballast to the diet. In this respect no substitute can be found for straw. The author thinks that, when horses lose weight after some manœuvres, the reason is not that the work they perform is excessive, but that the ration of straw which they consume at such periods is insufficient.

His observations were made in Slavonia, where straw is abundant, very low in price, and excellent in quality. His horses always had it at will, and improved in condition despite the most laborious work.

On the whole, despite its low nutritive value, straw is an indispensable element in the diet of horses.—(Revista de Veterinaria Militar.)

W. R. C.

It is reported that the disease known as grass-ill in horses has again made its appearance in Forfarshire. Last season's official investigations, carried out by Prof. Dewar, of Edinburgh, in association with a local veterinary surgeon, proved pretty clearly that the trouble was probably due to an excess of alsike clover in the pastures, the bowels of the affected animals becoming semi-paralysed. Prevention in a trouble of this kind is better than cure.

BULL-FIGHTING IN PERU.

You frequently publish "cruelty" cases in your paper. Herewith an account of bull-fighting in Peru, which you may think interesting enough to publish.

Unfortunately, in this case there is no fine to be

recorded.

The accompanying photographs may be of interest.

There is a regular bull-fighting season in the "cold" weather. The event takes place on a Sunday afternoon and is attended by a crowd of about 20,000 people. The bulk of the crowd is composed of men, but quite a large number of women, in all their latest fashions, attend also; and are as enthusiastic as the men. In January of this year the celebrated Mexican bull-fighter, named Gaona, was got from Spain for five performances at a salary of £1000 for each performance.

There are four bulls killed during the afternoon between three and five o'clock. They are specially selected for their wildness. Each bull is tackled in four stages. In the first he rushes madly round the arena from his entry gate, and charges every man he sees. Little risk is taken at first, till the bull has worked off some of his energy, and the men are quick to run to their shelter barriers which are placed at intervals round the ring. Wild cheers greet every charge of the bull provided the bullfighter or his assistants step aside from the rush with sufficient sang froid. The bull charges the coloured cloak which the man waves, and just as the bulls horns reach the cloak held by the man in front of him, the man steps nimbly aside and usually retains the cloak, or it may be carried away on the horns of the bull. If the bull should turn too quickly and come for the same man a second time to his obvious danger, other men draw off the bull on to themselves by waving their coloured cloaks.

In the second stage the horses are brought in with their right eyes blindfolded. Old worn-out coach horses are generally used, and about the most miserable specimens of horseflesh imaginable.

Usually two horses are brought in for each bull. There is a toreador on each with his right leg very thickly padded, and with a heavy lance in his right hand. This lance has a guard to prevent it going too far, for the end of the bull is not yet; he has to go through many more tortures before his final one.

The first horse is led by an assistant up in front of the bull at a few yards distance, and the bull is induced to charge so that he strikes the abdomen. Usually the horns enter the abdomen and tear a large gash as the bull tries to free his horns. The horse goes down on his left side and the rider, who has plunged his heavy lance into the withers of the bull, uses it as a vaulting pole to clear himself from the melée. The bull, infuriated and bleeding from his withers profusely, is drawn off by other assistants, and the horse gets on his feet of his own accord, or is beaten with a stick till he rises. He may trot out of the ring or be led out with several

on the ground. If he is quite unable to get on his feet he is left to die where he fell, and it is not uncommon to see a horse lying kicking in agony till later when that particular bull has been killed.

The bull is played for a little with the coloured cloaks, and the second horse is brought forward to be dealt with in like manner. If, when the horse arrives outside the ring it can be patched up well enough to do for the next bull, this is done. method is to push back the intestines through the rent, stuff in a bunch of straw to help keep them there and sew the abdominal flaps over the straw.

In the third stage the banderillas are planted in the bull. A banderilla is a light wooden stick about a yard long with frills of coloured paper stuck all along the shaft, and at the business end of the stick a fish-hook spike. The banderillero takes one of these sticks in each hand and waves them at the bull till the bull charges, when he jumps to one side, and plants them in the bull's withers as it rushes past. This is repeated a second and third time with banderillas of other colours, two each time, making six in all. If the banderillas are well placed and the whole thing neatly done, the onlookers go into a perfect frenzy of excitement, standing up and waving hats and handkerchiefs, and yelling frantically, and making the most deafening row with whistles. Blood is now streaming down the shoulders of the bull.

At the fourth scene the bull-fighter comes forward to give the most difficult part of the performance, namely, driving a sword home to kill the bull. He carries for the first time a scarlet cloak, one corner of which he grips firmly with his left hand, while in the right he holds the sword with a fold of daring manœuvres to show the power and mastery he has over the animal, which by this time is tired and bewildered. His assistants are round him and the bull, in a wide circle, to draw off the bull if necessary. Such a scene is described in the paragraph dealing with photo. 6. Finally he stands about two yards from the bull, holding his sword shoulder high, horizontally, and with the point pointing over the bull's lowered head towards its withers. The bull makes its final charge and the sword is driven in nearly to the hilt through the withers, in a downward and backward direction. It looks as though the sword passes between the lateral spines of the dorsal vertebræ and enters the lungs. If this is well done at one try, the onlookers' excitement is intense. Many of them seem as though they must lose their reason unless they calm down. The bull halts and stands still a second or two, then shows signs of acute distress, with heaving flanks, and blood pouring from the nostrils, finally rolls over and dies. The sword is withdrawn, and those nearest jump into the ring to secure a banderilla as a memento. Then a team usually of four horses comes in drawing a small trolley, to which the bull's head is attached and the carcase is does not enter first time, but only penetrates a few has been a failure to get the sword home. The

feet of his intestines hanging out and even trailing inches and meets bone. It is left sticking there till the bull by tossing around in pain, throws it spinning high into the air. As many as six failures may be made, when the sword is usually driven into the seat of "pithing," and death results. When the bull-fighter has made a successful kill, he walks round the floor of the arena to get his reception. The reception which Gaona got might well make even the much-worshipped Kaiser en-The yells and whistles can be heard for vious. miles. Straw hats are showered into the ring in the hope that Gaona himself will shy them He could not have been treated with greater awe if he had been a deity. Some, more venturesome than others, ran and embraced Gaona, and so ascended to heights of fame among their less fortunate fellow-creatures.

Then, when all have settled down, the arena is cleared for bull No. 2, which is treated in the same way. The bulls vary tremendously. Some are cowards and bolt, and this is greeted with howls by the audience, who feel they are not getting their money's worth, then the bull is removed and another one is tried. Some bulls are dangerous as they learn the "game" too quickly, and by a side turn of the head may catch the man and injure him, an accident which is greeted by the onlookers with horror; but I must confess to a certain sense of satisfaction when a man got thrown, as it seemed as though the wretched bull was only "getting a bit of his own back" in what is a purely a onesided performance Bulls cannot be spared to fight again another day, as they would then be too dangerous for anyone to tackle.

I am told that the affair of the horses is considered cruel, but that it is necessary to teach the the cloak thrown over it. He gives a number of bull to get his head well down when charging, beclever passes with the bull, and goes through several cause at the final scene, when the sword has to be run in, it is impossible to place the sword in successfully if the bull's head is not well down. This does not appear to justify the shocking cruelty

which goes on.

THE PHOTOGRAPHS.

1. The opening of the performance for the afternoon. A procession, including everyone taking part in the show, goes round the ring, headed by the gorgeously dressed bull-fighters and their assistants. In the procession will be seen the wretched horses doomed to such a barbarous end. The higher part of the ring is the President's box, which also accommodates the band. On the roof of the ring can be seen soldiers of the Peruvian army armed with rifles.

2. A bull in one of its first mad rushes.

3. Gaona waving two banderillas at the bull to induce him to charge. Two are already sticking in the bull's withers and hanging down.

4. Taken at a so-called "comic" bull-fight when the bull is just as badly ill-treated as at the more

serious one.

5. The bull running away in fear.

6. At the final scene. On the extreme left is a dragged off. As often as not, however, the sword horse dying from its injuries. On the right there

matador is seen, sword in hand, returning to pick up his fallen scarlet cloak which has been torn from him by the bull and is lying on the ground. The bull is seen stamping the ground and raising a cloud of dust, as the assistants rush to take the bull's attention off the matador while he picks up his cloak. The six banderillas can be seen sticking in the withers.

7. At a "comic" bull-fight. The carcase being removed. In the ordinary fights a team of four, with the leaders mounted, is used.

27th Aug., 1917.

S. H. GAIGER, F.R.C.V.S.

ANNUAL ADMINISTRATION REPORT OF THE CIVIL VETERINARY DEPARTMENT, IN BALUCHISTAN, FOR THE YEAR 1915-16. [Abridged.]

Mr. J. G. Cattell held charge of the office of the Superintendent, C.V.D., Sind, Baluchistan and Rajputana, from 1st April, 1915, to 12th March, 1916, when he had to take leave on account of ill-health, and Khan Sahib S. G. Haji, Deputy Superintendent, C.V.D., Sind, acted for him.

Mr. Cattell was on tour in Baluchistan for 80 days and travelled 2981 miles by rail and 373 miles by road. He spent 16 days and travelled 2964 miles by rail and 68 miles by road to attend a meeting of the Board of Agriculture in India, held at Pusa, and to study the working of the Government Cattle Farm at Hissar, in the Punjab. [A list of various inspections and other duties follows.]

From the 25th October, 1915, the Superintendent had to undertake the control and management of all equine diseases in the Baluchistan Horse Breeding Circle in addition to his own duties.

Mr. E. S. Farbrother, I.C.V.D., remained attached to the office of the Superintendent, C.V.D., from 1st April to 13th July 1915, when he joined the Indian Army Reserve of Officers.

Treatment of Disease.

The number of deaths reported was 7757, as against 4029 deaths reported in the previous year. There is a large increase in the reported number of deaths from epidemic diseases as compared with the preceding year, but little reliance can be placed on the mortality statistics.

An outbreak of influenza among tonga ponies in Quetta caused a good deal of inconvenience. The Quetta Municipality gave the Veterinary Department great assistance by providing segregation huts, and a supply of green fodder for sick animals and conservancy arrangements free of charge. Owing to this assistance the spread of the disease was greatly curtailed.

Several cases of dourine were brought to light during the year. It is feared that the disease is wide-spread in the province.

Foot-and-mouth disease. Six hundred and eightynine bovines were attacked and eight died. In the districts of Sibi, Quetta-Pishin, and Loralai, 1591 sheep and goats were attacked and 20 died.

Black quarter was reported from the Sibi and Loralai districts, 694 animals were attacked and 686 died.

Anthrax. Eighteen bovines were attacked in the Loralai district, and all died. 625 sheep and goats died

An outbreak of rinderpest was reported from the Sibi district, in which 596 sheep and goats were attacked and 329 died.

From three districts 4025 deaths were reported amongst sheep and goats from parasitic disease. It is tions, treated 143 animals for contagious and non-

probable, however, that the mortality was much higher than these figures would indicate. Wire worm disease (Hæmonchus contortus) probably causes the heaviest losses. Tape-worm disease is also prevalent in Baluchistan, and the Superintendent discovered recently that nodular disease of the intestine, due to Æsophagostomum columbianum, exists among sheep in the province. These parasites cause serious wasting disease, accompanied by a great mortality when the grazing is poor.

Twenty-one outbreaks of scab were reported from three districts, in which 3910 sheep and goats were

attacked by the disease and 698 died.

Veterinary Assistants were supplied with a nonpoisonous proprietary dip approved by the English Board of Agriculture and Fisheries, and they carried out 2881 dippings. There were a few accidents owing to lack of experience of dipping on the part of a subordinate staff and non-compliance with instructions by flock owners but on the whole very satisfactory progress has been made, and this form of treatment is beginning to be appreciated.

The portable dipper referred to in last year's report was used when outbreaks of scab occurred near the Kachh-Ziarat road. Most outbreaks occurred in places to which transport was impossible. Messrs. William Cooper and Nephews, Berkhampstead, England, very kindly allowed the Superintendent to make use of their designs for dipping baths, and he has had constructed a hand bath and drainer of galvanized iron which can be loaded on a camel or in a cart for transport to the scene of an outbreak of scab. Dipping can be carried out much more thoroughly and economically with this bath than with an ordinary tub.

Sheep pox and goat pox were reported from the Sibi and Loralai districts, and caused 795 deaths.

Distomiasis (fluke disease, liver rot) appeared in three districts. The number of deaths reported was 501 out of 1761 attacked.

Veterinary Assistants visited 228 villages and treated 5559 animals for contagious disease, in addition to inoculations and dippings, and 333 for non-contagious diseases, and castrated 14 animals. The large increase in the number of cases treated on tour this year is due to Veterinary Assistants having done more touring than in previous years.

Fairs and Shows. The Quetta Show was held in September. Eighty-four animals competed for prizes,

and Rs. 95 was awarded in prizes.

The Sibi Show was held in February, 1916. hundred and ninety-three animals competed for prizes, against 427 in the previous year. This decrease was due to scarcity of fodder and the presence of cattle dealers in the district during the show week. Bullocks suitable for siege train and army transport work were purchased by the Transport Purchasing Officer of the 4th (Quetta) Division. Cattle dealers from the Punjab purchased good quality plough cattle at the show and in the district. in the district. A sum of Rs. 505 cash and two silver medals were awarded as prizes, against Rs. 540 cash and two silver medals in 1915.

Subordinate Establishment.

3

M. Mohammed Abdullah held charge of the office of the Veterinary Inspector, C.V.D., Baluchistan, from 1st April to 3rd October, 1915, when he was deputed to attend a post-graduate course at the Punjab Veterinary College. He was on tour for 74 days and travelled 1136 miles by rail and 981 miles by road. He inspected three Veterinary Dispensaries, also the horses of the Kachh-Ziarat and Harnai-Loralai tonga lines: attended the Quetta Cattle Show and assisted on the judging committee. While on tour he attended several outbreaks of disease, conducted inoculation and dipping operacontagious diseases, and checked the work of the Veter-

inary Assistants.

There were four Veterinary Assistants working in the province at the beginning of the year. A fifth man was appointed to Loralai. Two of these, Sardara Singh and Ghulam Mohammed volunteered for military service, and there were thus three employed at the end of the year. The work of the subordinate staff during the year was fairly satisfactory.

General Remarks.

The year has been marked by satisfactory progress particularly in dealing with outbreaks of epidemic disease. The improvement in the pay and prospects of the subordinate staff sanctioned during the year should overcome the difficulty experienced since the constitution of the department in inducing suitable Veterinary Assistants to serve in the province and in obtaining Baluchi scholars of the proper stamp for the Punjab Veterinary College.

Considerable difficulty was formerly experienced by Veterinary Assistants in getting camels or horses when they had to move out at short notice to attend an outbreak of disease. The arrangements sanctioned recently have worked well so far, and Veterinary Assistants can now attend outbreaks of epidemic disease with little

The wealth of Baluchistan largely consists in its flocks of sheep and goats, and investigation of the epidemic diseases which cause heavy losses amongst them is of the first importance. It is obviously impossible for one Superintendent to devote much time to investigation of disease while he is in charge of the veterinary work of three provinces. The work of the department has increased so much in the last few years that a second Superintendent is required.

The present office staff is unable to cope with the increasing work, and it was only with the assistance of the temporary clerk sanctioned by the Baluchistan Administration during the Veterinary Inspector's absence on deputation that office work could be kept

moderately up to date.

The number of specimens received by the Superintendent for examination is increasing yearly, and an office Veterinary Assistant is required to assist with the preparation and examination of specimens and to deal with correspondence on purely professional matters.

> J. G. CATTELL, I.C.V.D., Superintendent, Civil Veterinary Department, Sind, Baluchistan and Rajputana.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

P. W. Bloye, Lieut. A.v.c.	£1	1	0
E. Patrick, Capt. A.v.c.	1	. 1	0
C. A. Powell, The Sandhouse, Woburn	1	1	0
G K. Walkerr, LtCol. I.C.V.D.	1	1	0
Previously acknowledged	869	15	0
	£873	19	0

The mycological collection of the late Dr. J. W. Ellis. comprising 1600 dried specimens, representing all groups of fungi, has been added to the Herbarium at Kew Gardens.

ARMY VETERINARY SERVICE

Windsor Castle, Sept. 12.

The following Officers had the honour of being received by His Majesty at Buckingham Palace, when the King conferred decorations as follows:—

THE MILITARY CROSS.

Major James Taylor, Army Veterinary Corps. Captain James Richardson, Army Veterinary Corps.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Sept. 7. REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lts. to be temp. Capts.: -E. A. Mylrea (Aug. 1); S. J. Cotton (Aug. 15). Sept. 8.

To be temp. Lieut.:-G. L. Bradley (Aug. 22).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Capt. (temp. Maj.) J. F. Rankin relinquishes the temp. rank of Major on vacating the appt. of A.D.V.S. (July 29); Capt. J. F. Rankin is granted the actg. rank of Maj. whilst empld. as A.D.V.S. (Aug. 5).

The following casualties are reported: DIED—Pte. J. Ford, 18406 (Bootle). Cpl. W. Waters, 17360 (East Ham, E.).

Personal.

TUTT.—On the 6th Sept., at St. John's Hill, Seven oaks, the wife of Capt. J. F. D. Tutt, A.v.c.—a son.

The Royal Sanitary Institute,

90 BUCKINGHAM PALACE ROAD, S.W.

Discussions will take place at the Town Hall, Chatham, Saturday, September 29th, at 10.30 a.m., on

"Some points in Epidemic Cerebro-Spinal Men-INGITIS," by Surgeon A. G. L. Reade, R.N.V.R., Asst. M.O., L.C.C.

"Some aspects of the Housing problem," by J. Holroyde, F.R.C.S.E., D.P.H., M.O.H. Chatham. "Public Abattoirs," by R. L. Honey, F.S.I., Assist.

Borough Surveyor, Chatham.

The Chair will be taken at 10.30 a.m., by Prof. H. R. Kenwood, M.B., D.P.H., Lt.-Col. R.A.M.C., Mem. of Council. 2.30 p.m. Visits will be made to the Royal Naval Hospital, Army Abattoir and Bakery, and Rochester Cathedral Cathedral.

Mr. H. G. Wells on the Horse.

The talented author of "Mr. Brittling sees it through" has been to the front, and in his book, "War and the future," he gives us the impressions he received and the conclusions to which he has arrived on many points connected with the war, its conduct, and possibilities.

His remarks about the cavalry should beget some searching of hearts among the members of the veter-inary profession:—"Several of the French leaders with whom I talked seemed to be concerned that the horse is absolutely done with in modern warfare. There is nothing, they declared, that the cavalry ever did that cannot now be done better by aeroplane. This is something to break the hearts of the Prussian Junkers and of old-fashioned British army people. The hunt across the English country side, the preservation of the fox as a

sacred animal, the race meeting, the stimulation of betting in all classes of the public: all these things depend ultimately upon the proposition that the "breed of horses" is of vital importance to the military strength of Great Britain. But if the arguments of these able French soldiers are sound the cult of the horse ceases to be of any more value to England than the elegant activities of the Toxophilite Society. Moreover, there has been a colossal buying of horses for the British army, a tremendous organisation for the purchase and supply of fodder, then employment of tens of thousands of men as grooms, minders, and the like, who would otherwise have been in the munition factories or the trenches.

To what possible use can cavalry be put? "The swooping aeroplane does everything that cavalry can do in the way of disorganising the enemy, and far more than it can do in the way of silencing machine guns. So far from cavalry being able to negociate country where machines would stick and fail, mechanism can now ride over places where any horse would flounder.

Except perhaps as a parent of transport mules I see

Except perhaps as a parent of transport mules I see no further part henceforth for the horse to play in war. The military man I observe still runs about the world in spurs, he travels in trains in spurs, he walks in spurs, he thinks in terms of spurs. He has still to discover that it is about as ridiculous for a soldier to go about in spurs to-day as if he were to carry a cross-bow. I take it that these spurs are only the outward and visible sign of an inward obsolescence. Behind our front at the time of my visit there were, for example, many thousands of cavalry—men tending horses, men engaged in transporting bulky fodder for horses, and the like. These men were doing about as much in this war as if they had been in Timbuctoo. Wherever I went behind the British lines the officers were going about in spurs. These spurs at last got upon my nerves. They became symbolical. They became as grave an insult to the tragedy of the war, as if they were false noses. The British officers go for long automobile rides in spurs; they walk about the trenches in spurs. It is ridiculous for these spurs still to clink about the modern battle-field.

What the gross cost of spurs and horses and trappings of the British army amounts to, and how many men are grooming and tending horses who might just as well be ploughing and milking at home, I cannot guess: it must be a total so enormous as seriously to affect the balance of the war.

A Bursary for the Dick College.

At the monthly meeting of the Maybole Town Council last week, the Clerk read the following letter from Mr. Alexander Inglis M'Callum, v.s., 5 Greenhill Park, Edin-

"I hereby intimate to you that it is my intention, if the terms of the bequest after-mentioned are accepted by you, to hand to James Gibson, Esq., Town Clerk of Maybole, scrip for £2000, namely, war stock, £500; Exchequer bonds, £1300, and a deposit receipt for £200. This sum of £2000 shall be invested by them in Trust securities, as authorised by the Trust (Scotland) Acts, and approved by the Court of Session, and the income thereof applied annually in all time thereafter, in providing a bursary for students wishing to study at the Royal (Dick) Veterinary College, Edinburgh, for the diploma of the Royal College of Veterinary Surgeons, and for the degrees of the Edinburgh University, namely, bachelor and doctor of veterinary science, during the curriculum for said study, and preference shall be given to those candidates who belong to the parish of Maybole, and failing them, to candidates belonging to any of the neighbouring parishes, namely, Barr, Dailly, Kirkoswald, Dalrymple, Kirkmichael, Straiton, and

Girvan, and the said Provost, Magistrates, and Town Council shall be the sole judges of the qualifications of said candidates; and it is hereby stipulated that said candidates shall be of good character, and otherwise eligible—that is to say, physically and mentally fit, and over sixteen and under eighteen years of age, and the candidates who shall receive the highest percentage of marks at the examination in general education, qualifying for the said curriculum of membership for the diploma of the Royal College of Veterinary Surgeons, and the bachelor of science and doctor of veterinary science of the University of Edinburgh, shall be the successful bursar."

In a P.-S. he adds:—"Special consideration might be given to the sons of widows or orphans." "I wish it to be a disqualification for any bursar to be inattentive to his studies, or to commit any misconduct, the power to disqualify such a pupil to be in the sole discretion of the Provost, Magistrates, and Town Council of Maybole, acting on a report by the doctor of the Royal (Dick) Veterinary College."

It was stated by the Clerk, who read extracts from an agricultural journal of Mr. M'Callum's career, that he had given £25,000 first and last to the Royal (Dick) Veterinary College.

The Provost moved that they accept the handsome gift, and all the more readily as it had been given by a man who belonged to the district. In the whole history of the town nothing so munificent had been bestowed on the general public. No doubt the gift was given to advance something which lay very near the donor's own heart—the Dick Veterinary College—but he was sure it would be received with great pleasure by the Council on behalf of the community, and the Council would see that the conditions were carried out to the letter. (Applause). Agreed.—Ayrshive Post.

Diseased meat at Lowestoft.—Fined.

At Lowestoft on Thursday, before Mr. G. E. Clarke (in the chair) and other Magistrates, Harry Clement Burton, butcher, Norwich Road, was charged with having a beast's liver, unfit for human consumption, deposited at his shop for the purpose of sale, and intended for the food of man, on July 19th. The Town Clerk (Mr. R. B. Nicholson) prosecuted. Mr. Nimmo, Ll.B. (Messrs. Wiltshire & Son), who was for the defence, at the outset asked the Bench to decide upon the wording of the summons what his client was actually charged with. He refused to plead until he knew really what was the specific charge. The Town Clerk explained that the summons was taken out under Sections 116 and 117 of the Public Health Act, and the Deputy-Clerk thought there was a specific charge in the summons. Mr. Nimmo said it was not an offence for unsound meat to be deposited. The Clerk: Not if intended for sale for man? I think the summons perfectly clear.

Mr. Lawrence Howarth, sanitary inspector, said he visited the defendant's shop and saw the liver, with a heart, kidneys, etc. He called the defendant's attention to the abscesses, one of which had been cut and was discharging. He asked defendant if he intended to cut it up, and he said "Yes," whereupon witness told him that he intended to seize it. He did so, and a Magistrate ordered it to be destroyed.

Cross-examined: The abscesses were half the size of

Cross-examined: The abscesses were half the size of an egg, and plainly visible. Defendant admitted that the liver was to be cut up for "fry" next morning. To the naked eye, apart from the abscesses, the liver looked sound, but could not be so.

Mr. John Henry Curry, M.R.C.V.S., said he examined the liver, and found three abscesses in it, which would render the whole liver unfit for human food. They were on the surface, just under the covering of the liver and plainly visible.

Cross-examined: When he saw the liver it had been slashed, and that had burst one of the abscesses.

By Mr. Jacobs: The membrane over the liver might prevent an outsider, other than a butcher, from seeing these abscesses.

Mr. Nimmo, addressing the Court for the defence, argued that there was no exposure for sale—in fact, they were not charged with that, and if that were so, there was no offence.

The Chairman, having consulted the Act, held that there was "exposure for sale"—that was how he con-

strued it, in the light of the evidence given.

Defendant, sworn, said the liver was brought up by an assistant (Jackson) in a basket, and placed at the back of the shop, in order that he might inspect it. He had not seen it when the Inspector came in. Jackson had previously told him that the liver was all right. When the Inspector asked about the liver witness wanted to know what was wrong, and the Inspector pointed to a spot, which looked like a small piece of fat. He would have noticed it if the Inspector had allowed him to do so, but he said he would take it away. It was only after the liver was cut open that he saw something was

Cross-examined: Until his attention was called to the liver by the Inspector, he intended to prepare it for sale.

The Chairman: Would it be possible to have a preparation without a purpose?

Mr. Nimmo contended that they were not charged with "preparation for sale."

Cross-examination continued: The liver was brought to the shop to be cut up for sale, after he had cut it up and examined it.

James Jackson, who slaughtered the bullock, said he noticed nothing wrong with the liver. In any case a liver would not be sold if found unsound when cut up. Defendant had not seen the liver when the Inspector called.

The Magistrates having retired, the Chairman said they had decided to convict, and defendant must be fined £3, or one month.—East Anglian Daily Times.

Contagious Abortion in Aberdeenshire

At a meeting on Friday, Aug. 31, of the Executive Committee of Aberdeen County Council, Mr. Duff, of Hatton, presiding, a letter was read from Mr. William Brown, veterinary department, College of Agriculture, regarding contagious abortion. He stated it was by far the most serious of the bovine diseases, and the animal loss was extraordinary. It seemed to be exceptionally prevalent in Aberdeenshire this year. He pointed out that the County Council of Lanark had asked their veterinary surgeon to give lectures upon the disease at the various centres, and also to carry on preventive inoculation of the herds in the county with the Board of Agriculture vaccine, which was giving excellent results, and he suggested it would be wise to do something similar in Aberdeenshire.

Mr. Sandison said there had been tremendous loss in the county from the disease. He referred to the good results which had been obtained in England with vaccine, and expressed the view that the disease should be treated as a contagious disease and made notifiable. It was agreed to confer with Mr. Brown before drafting

any resolution on the subject.—N.B.A.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

	Period.		Anthrax		rax Foo and-M Disea		Glanders.†		Parasitic Mange. ‡			Swine Fever.		
Per			Out- breaks mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.		
GT. BRITAIN.				1		1		1		i (-)		1	(-)	
W	eek en	ded Sep	t. 8	5	5			1	1	30	37		25	7
Corresponding week in	{	1916 1915 1914		6 6 7	6 6 10	6	11			23 16	55 23	1	67 62 61	40 277
	•	1914	•••	. 1	10	0	11	2	4	1	1	2	υı	329
Total for 36 week	s, 1917			333	391			19	33	1907	3686	395	1740	754
Corresponding period in	{	1916 1915 1914		379 424 525	449 484 574	1 20	24 102	36 37 75	91 66 223	1715 597 1522	3871 1286 2634	185 160 155	3363 3054 2882	8661 13606 29268

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. (a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Sept. 11, 1917 † Counties affected, animals attacked :- Kent 1 Excluding outbreaks in army horses.

IR LAND Week ende	d Sept	. 1							Outbreaks	10	5	17
Corresponding Week in	1916 1915								1	5 8	5 2	52 17
——————————————————————————————————————	1914		, NA_						3	5	5	52
Total for 35 weeks, 1917			3	5			1	1	37	271	179	1060
Corresponding period in	$\begin{cases} 1916 \\ 1915 \end{cases}$		3	7			·;;		48 53	278 290	224 175	1285 1000
The second of the second of	1914		1	1	76	957			62	390	158	819

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 3, 1917 Note -The figures for the Current Year are approximate only. As Diseased or Exposea to Infection

RECORD VETERINARY

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1524.

SEPTEMBER 22, 1917.

VOL. XXX.

AN ANNIVERSARY.

Last Wednesday was the twenty-fifth anniversary of the granting of our Supplementary Charter of 1892. That measure remained our latest Charter till the granting of that of 1914. The latter was granted in the first month of the war—it bears date August 21; and war conditions have ever since rendered it largely inoperative - its most important clause has been wholly so. The 1892 Charter, on the other hand, has been in full operation for a quarter of a century, and its influence upon our professional development has been considerable. We may profitably consider what the effect has

Some of the comparatively minor clauses in the Charter have been very beneficial The system of Council election was improved, making the Council much more widely representative of the profession than before. The restriction of membership of the Council to Fellows of thr College was removed; and the quality of some past and several present Councilmen proves the wisdom of the change. Another step in the right direction was the abolition of the practice of allowing members of Council to act as examiners. But 'the collective good of these reforms is probably less than that of the establishment of the four years system, which was the main purpose of the Charter of 1892,

During the latter part of the period in which the three years' system was in force, a gallant attempt was made to bring the training of senior veterinary students up to a scientific equality with that of the medical schools. It failed, as it was bound to fail. The expansion of veterinary science necessitated the introduction of new teaching into the curriculum, for which the time then available was insuffi-The theory and practice of pathology, cient. bacteriology, parasitology, medicine, surgery, materia medica, therapeutics, and hygiene had to be crowded into one college year of thirty weeks; and old students of the early nineties will remember the deplorable results. The schools could not teach everything that ought to have been taught; the students could not properly learn even everything that was taught. The four years system was necessary to allow time for the proper assimilation of the subjects then taught and make room for the addition of meat inspection and, a few years later, of protozoology. Thus the 1892 Charter did much more than improve the internal working of the profession; it initiated an extension in our educational

for our development.

TREATMENT OF ECZEMA.

By HENRY GRAY, M.R.C.V.S.

I observe in your last issue that Mr. W. R. Davis attributes to me an agreement with an opinion expressed by Prof. Macqueen. Because I recommended abstention from greasy applications in the treatment of eczema of the scrotum and of the foot in the dog, he must not infer that I do not recommend them for other varieties, forms or localisations.

Would Mr. Davis use greasy applications in the treatment of peracute exudative eczema with a serous fœtid discharge, or dry and moist seborrhæic eczema with a black pigmentation of the skin?

One cannot treat every case of eczema alike because it varies in form, degree, and situation. Again, each individual animal has its own peculiarity, and what would suit a pigmented skin would in all probability be injurious to a pigmentless skin. Further, the success or failure of any treatment varies according to the skill adopted in carrying it out, to season, climatic conditions and locality. Finally, it also varies according to the breed and underlying constitutional peculiarities or structural changes.

Mr. Davis cites a case of a doctor with a cart load of thin putty, and also mentions Carron oil. Surely he does not wish us to believe that because these two agents are good for burns that human physicians treat all their cases of eczema with hem?

Probably Mr. Davis has forgotten the preeminent value of picric acid, and the utility of a solution of washing soda in burns!

Why use the term "dermatitis," which is usually applied to an inflammation involving several or the whole layers of the skin en masse? Perhaps Mr. Davis uses it merely as a synonym of "skin disease." Beyond meaning "inflammation of the sktn" it does not designate any particular skin affection.

Pray let us have specific terms with precise, not ambiguous, meanings. When we obtain them we then know where we are. At present veterinary dermatology is, in this county, almost an unknown quantity.

[Put plainly, Mr. Davis asks why an oleaginous dressing should be held to be right for a skin damaged by heat, and an aqueous dressing to be preferable for similar conditions arising from other causes. The foregoing note does not answer this question; system that had become absolutely indispensable nor does it in any way help towards the solution of it.]

A RECORD IN TEMPERATURES.

Some surprises result from taking several thousand temperatures daily, and I have one to relate

that I think breaks all records.

Not once or twice have I seen animals pass 107.6, but several times. To-day a case in a light draught horse was recorded as 108.4. This was reported at 4.20 p.m. At 4.45 a thoroughly reliable N.C.O. and another trustworthy person took this animal's temperature with two other thermometers, and found them to register 108.

This morning, at 6.15, the temperature had fallen to 100, and the horse went to exercise. I took it myself on his return and found it 100. At 2 p.m. it was 98.4. The animal had fed throughout, looked quite well, had a nearly normal pulse, respiration

and membranes.

He had two doses of carbonate of ammonia when

first discovered.

This animal will be kept under observation, and if anything developes I hope to report on his case another time. Meanwhile, as a "back number," I would be grateful for any explanation from my learned juniors who read The Veterinary Record.

H. LEENEY, Capt. A.V.C. (T.F.)

RATS AND SWINE FEVER.

Mr. Blakeway's notes on Rats as carriers of Swine fever, in The V.R. of the 8th inst., opens up an old belief which cannot be allowed to pass without comment. It is not uncommon to hear it stated as a well-known fact, by both lay and professional men, that rats carry the disease; but this trol of the manufacture of veterinary biological is simply an assertion which is difficult of proof.

On the other hand, the experiments carried out by Stockman (vide Final Report of the Departmental Committee on Swine Fever, 1915, Cd. 8045) point to the fact that rats do not often act as carriers, and further, that rats cannot act as patho-

logical carriers of swine fever.

Presumably the method of spread suggested by

Mr. Blakeway is as "mechanical carriers."

The possibility of swine fever being spread in this way cannot be overlooked, but the distance the disease can be carried must be comparatively

Years ago the rat as a carrier of swine fever was given a deal of publicity, and was under the consideration of the Board of Agriculture on several occasions, the suggestion being then made that the extermination of the rat would produce a considerable reduction in the number of outbreaks.

The opinion of all competent authorities is that great importance need not be attached to the rat as a mechanical carrier in the spread of swine

The diseased and "carrier" pig still is, and always has been in Great Britain, the chief means

outbreaks of swine fever has been suggested by stances that would prove detrimental to organisms J. Malcolm, Esq., F.R.c.v.s., and that is "for the in the non-spore or vegetative stage, such as Pas-

Powers that be" to make it compulsory on all vendors of pigs to give a warranty with each pig that it is free from swine fever at the time of sale: the vendor being liable to the purchaser for compensation.

Of course, hardships would sometimes be incurred—what Act of Parliament or Order of a Government Department does not incur hardships? But it would do away with the cursory market inspection of the present time, and it would kill the traffic in the rough store pig—a very desirable and necessary achievement.

Sutton Coldfield, J. O. POWLEY.

Birmingham, 17 Aug.

DESICCATED ANTHRAX VACCINE.

N. S. Ferry, Detroit, Michigan, in the Journal of the American Veterinary Medical Association, writes: "Pasteur's anthrax vaccine has been used, wherever anthrax has prevailed, since it was first brought to the attention of the veterinary profession, although it has long been known to be an exceedingly unstable and unreliable product. According to Washburn (Farmer's Bulletin, No. 784, United States Department of Agriculture), 'In the Pasteur method of vaccination there are, however, disadvantages which must be duly considered. To obtain satisfactory results from the use of Pasteur's vaccine it is of primary importance that the product be active. Experience has proved that this type of vaccine, if subjected to unfavourable conditions, may deteriorate within a short time after its preparation. Since the enactment of legislation giving the United States Department of Agriculture conproducts going into interstate trade, periodical tests have been conducted with anthrax vaccine prepared by various manufacturers, and in many instances proved inert within three months of its preparation. In other cases it remained potent for a year. When exposed to warm temperature and light it deteriorates very rapidly, and when it is remembered that the products of manufacturers may be stored under unfavourable conditions in branch houses and rural drug stores, the loss of value can be readily explained.

It seems to be requisite, for the successful vaccination of animals against anthrax, to artificially produce a slight attack of the disease. This procedure raises the resistance of the tissues of the animal sufficient to prevent the live virulent microorganisms from finding lodgment and thus producing the disease in the natural way. The organisms in Pasteur's vaccine do not remain, as a rule, in a sufficiently virulent condition to produce this artificial immunity, so that investigators, realising this fact, have endeavoured to devise other methods of preparing the antigen for vaccine purposes. The very fact that the anthrax bacillus is a spore-bearing organism very readily lends itself to the solution of the problem, as it is known that the spores at A surer method of reducing the number of times retain their virulence for years under circumteur's vaccine. Experiments have shown also that when the anthrax organism is acted upon by the proper amount of heat it gradually loses its virulence and, thus attenuated, will retain its modified strength in the spore stage. The method that is employed for this attenuation is that first proposed by Pasteur and used for his vaccine. A broth culture of the anthrax bacillus is allowed to grow under the influence of a temperature of 42.5° C. and, at varying intervals, is tested for virulence on rabbits, guinea-pigs and white mice. A suspension of the organism just virulent enough to kill a white mouse but not a guinea-pig is designated as vaccine No. 1, and one that will kill a guinea-pig but not a rabbit is vaccine No. 2. With this method of procedure it is a very simple matter to standardize a spore vaccine to any strength.

According to Eichhorn (Bulletin No. 340, United States Department of Agriculture), Zenkowsky in Russia, Detre in Hungary, Nitta in Japan, and others, have had successful results with spore vaccines, and for that reason, and also as a result of experiments carried on by the U.S. Bureau of Animal Industry, a spore vaccine has been proposed by them to replace, in this country, the Pasteur vaccine, using for the spore vaccine the same standardization tests as for Pasteur's vaccine.

11.00

In the preparation of this spore vaccine the following method is given by Eichhorn: 'For the purpose of producing a spore vaccine it is desirable to use a peptone-free agar medium, and after inoculation with the attenuated culture to grow the organism at a temperature 37.5° C. for four to seven days, by which time an abundance of spores will have formed. The growth is then washed from the slants and collected in a sterile flask and heated to a temperature of 60°C. for one-half hour, to destroy the vegetation forms of the organism. A measured quantity of this suspension can then be plated out in the usual manner and the spore control of 1 c.c. of the suspension be established.' He also says, 'In consideration of the keeping qualities of the spore vaccine, large lots can be prepared without fear of deterioration. In the bottling and storing of the same, proper care should be taken to prevent contamination.

In preparing material of an antigenic nature, especially for vaccine purposes, experience has taught us that deterioration, due to light, heat, chemical action, autolysis, bacterial contamination and other conditions, is a factor with which one must constantly contend, and a factor best controlled by refrigeration. For therapeutic immunisation on a practical basis, however, refrigeration is out of the question, and desiccation has of late proven a satisfactory substitute.

While the spore vaccine in suspension used in Russia, Hungary and Japan, and advised in this country by Eichhorn and others, has a distinct advantage over Pasteur's vaccine, it also has its faults, and it is very evident that the ideal vaccine would be a spore vaccine in a desiccated form. This sort freedom from lesions of the mucous membrane. of a vaccine would embody all of the advantages of both the spore vaccine and Pasteur's vaccine. With reports some new experiments upon the question. this thought in mind experiments were undertaken For the purposes of the research, he has regarded

by the author to determine, if possible, the practicability of a vaccine.

The desiccated spore vaccine in question was prepared in a similar manner to the spore vaccine in suspension, with the exception that the growth of the anthrax bacillus was scraped off the agar, incorporated with a sterile diluent in a proportion suitable to fulfill the tests required for its standardization, and dried at room temperature.

This vaccine was first tested in the early part of last year, and upon repeating the tests one year later with the same vaccine, which in the meantime had been kept at room temperature, it was found that there was no deterioration in virulence. This showed conclusively that it is not even necessary to keep the desiccated vaccine at refrigerator temperature as is advised for the ordinary spore vac-

cine in suspension.

There is also a question of vital importance to owners of cattle, especially when the animals are raised in large numbers, relative to the form in which the desiccated material is presented and the way in which it is to be administered. This is a distinctly practical question, and upon it rests in a large measure the usefulness of the vaccine. If it is made necessary to dissolve this dried vaccine in water before it can be injected, the method will have defeated its own purpose. To round up several hundred head of cattle, many of them in a wild state, with the intention of injecting them with a liquid vaccine by means of a syringe and a frail needle, is a difficult tosk. This is recognised as a great disadvantage to Pasteur's vaccine and the spore vaccine in liquid form, which is being used at present.

The spore vaccine should not only be desiccated, but is should be so prepared and standardised that it can be injected in a dry state in proper and safe proportions. This can readily be accomplished by moulding the dry spore vaccine into either the pellet or thread form, preferably the pellet, which insures the most convenient and the safest method for handling and injecting.'

ABSTRACTS FROM FOREIGN JOURNALS.

THE PASSAGE OF THE RABIES VIRUS THROUGH THE OCULO-CONJUNCTIVAL MUCOUS MEMBRANE.

Different workers have obtained conflicting results as regards the passage of the rabies virus through the oculo-conjunctival mucous membrane. Galtier, Compte, and Nicolas obtained positive results; and Remlinger, Galbiati, Gargia, and Izkara negative ones. Babes is inclined to admit that the oculo-conjunctival mucous membrane which is sound in the most absolute sense of the word does not permit the passage of the rabies virus; but he recognises the difficulty that always exists in establishing the perfect integrity and

the mucous membrane as sound in which a careful examination failed to reveal any lesions.

Two series of experiments were performed; and in each series two lots each of 18 guinea-pigs were used. In the first series a concentrated emulsion of fixed virus, repeatedly controlled, was used. Two drops of this were placed upon the eyeballs of 18 guinea-pigs with sound mucous membranes, previously gently raising the lower eyelid and afterwards lightly massaging it. Two drops of the same emulsion were used for the other 18 guineapigs; but in these the mucous membrane was previously slightly injured with mouse-toothed forceps. In the second series of experiments a fixed virus of extreme activity for guinea-pigs, which had been developed by nine passages through the guinea-pig, was used. An emulsion of this was instilled into the eyes of two sets of guinea-pigs, as in the first

The result of the experiments was that in the second series two animals with sound mucous membranes and one with an injured one died of rabies, while all the others remained perfectly healthy. The deaths were demonstrated as due to rabies by clinical observation and by laboratory tests, which included the experimental inoculation of rabbits.

The author's conclusions may be summarised as follows. It is only possible to produce rabies by the passage of virus through the oculo-conjunctival mucous membrane when the virus used is one of exalted virulence for the species of animal used for the experiment. This form of experimental rabies may be produced both in animals with a macroscopically sound mucous membrane and in those with intentionally produced recent and bleeding lesions of the membrane. Positive results from the instillation of rabies virus into the oculo-conjunctival sac are, however, rare; and the instillation does not cause rabies when the virus used is not of maximum virulence for the species of animal con-The rarity of positive results in such experiments should be ascribed to the abundant lachrymation which always follows the instillation of the virus into the oculo-conjunctival sac, rather than to a true neutralisation of the virus in situ. Nevertheless, a neutralisation of virus absorbed in minimal quantities must be admitted, especially in the experiments made with injured mucous membranes; though lesions of the oculo-conjunctival mucous membrane are a factor of secondary importance in the genesis of experimental rabies. (La Clinica Veterinaria).

LUMBAR ANÆSTHESIA IN VETERINARY SURGERY.

Lichtenstern has been working upon this subject as applied to horses and cattle, with a view to avoiding the frequent accidents which are ascribed to the process in human surgery.

to the process in human surgery.

He uses a solution of from $2\frac{1}{2}$ to 5% of novococaine, or of 10% stovaine. The 5% novococaine has a higher specific gravity than the cephalorachidian liquid. That of the 10% solution of stovaine is lighter; and this difference causes distinct conditions in the employment of the solutions, according to the point of penetration.

After the sub-arachnoidal injection of a 5% solution of novococaine in the lumbar region when the body is in the horizontal position, the diffusion of the fluid is effected as easily towards the head as towards the tail; but if the posterior third of the body is raised the solution is diffused more towards the head. The injection of a 10% solution of stovaine, on the contrary, anæsthetizes better in the direction of the brain. The employment of stovaine is indicated in operations upon the mesogastric or gastric regions.

The action of both these agents is made more lasting by the addition of adrenalin. Lichtenstern states the doses of novococaine for the horse as 0.25 c.c. for foals up to one year old, and from

0.5 c.c. to 1 c.c. for animals over a year

Lumbar anæsthesia can be practised with the animal either standing or cast. The most frequent course is to cast, retaining the body in the horizontal position, or raising its anterior or posterior third, according to the case. After regional preparation, the puncture is made with a trocar and canula from 11 to 13 centimetres long and from 10 to 16 millimetres thick. The point of puncture is between the last lumbar vertebra and the sacrum. In animals with a tough skin, this should be perforated previously, thus performing the operation by two punctures.

The trocar should be introduced some 11 centimetres. During the introduction the resistance offered by the dura mater is perceived; and the animal shows agitation at the moment of puncture. When the point of the trocar is supposed to have reached the sub-arachnoid space it is withdrawn, giving exit to a clear liquid, which shows that the injection may be proceeded with. The injection should be made very slowly, so as to occupy one or

or two minutes.

Anæsthesia is produced after from five to fifteen minutes; early if large doses or very concentrated solutions are used. The motility of the hind limbs disappears much later.

Lichtenstern thinks that the puncture and the aseptic injection entail no danger, even if a lesion of the cord is produced, and believes that there are numerous indications for the procedure in veter-

inary surgery.

Torri, iu *Il Nuova Ercolani*, gives an account of rachidian anæsthesia by means of tropococaine, his experience of which largely resembles that of Lichtenstern with the other two agents. The technique of the procedure is extremely simple. Torri operates with the animal standing, binding the hind limbs and putting a twitch on the nose. The point for injection is easily found in thin animals; in the horse, it is situated at the point of union of the median line with an imaginary line uniting the internal iliac angles.

After preparing the skin, the trocar is introduced gradually. The lumbo-sacral ligament and the meninges are perforated; and the cephalo-rachidian liquid, yellowish in tint and mixed with some drops of blood, issues from the canula when the trocar is withdrawn. When the arachnoid has been perforated, a sensation of resistance having been overcome and an empty space beyond the trocar is

noticed; and, if the point is then pushed further,

painful reflexes are caused.

The injection is performed slowly, and when it is terminated the animal is set free. The first analgesic phenomena are seen from 3 to 30 minutes after the injection, according to the dose used; uncertainty of the movements of the hind limbs is noticed, and paresis afterwards appears. Section of nerves may then be performed without causing the least pain; the zone of analgesia extends anteriorly as far as the diaphragm, and sometimes for a short time as far as the axillary region. The alkaloid is employed as a 10% solution, in distilled water to which 6% of sodium chloride has been added. Torri concludes that rachidian anasthesia by tropococaine is simple, practical, and economical in its application. Sub-arachnoidal injections of tropococaine are not toxic, and may be employed without fear. All the domestic animals are sensitive, constantly and in the same degree, to the action of this alkaloid. Anæsthesia is produced 3 to 10 minutes after the injection, and extends as far as the diaphragm, and lasts from an hour and a half to two hours. It produces no subsequent troubles.-(Revista de Veterinaria Militar). W. R. C.

THE VETERINARY CORPS, U.S.A. ARMY.

Many of our readers will remember that Veterinarians attached to'U.S.A. Army, with the help of their confrères in civil practice, have been endeavouring for years past to obtain due recognition from their War Department, and a status equivalent to that held in our Army. The question came to the front at the time of the Allied intervention in the Chinese rebellion. The following extract is from the May number of the Journal of the American Veterinary Association, and shows that the profession in the States has attained some of its objects, and is steadily progressing, helped by the European upheaval.

"In accordance with the Act of June 3, 1916 establishing a Veterinary Corps for the Army, those in the service have recently received their commissions. It is the plan of the War Department at present to hold an examination for applicants for the Army Veterinary Corps in the early part of July (1917). Upon a declaration of war an examination can be called at any time. Persons eligible for candidates for the regular Army Veterinary Corps are native-born citizens, between the age of 21 and 27 years. They will be required to pass a satisfactory examination as to character, physical condition, general education and professional quali-The men already in the Army Veterinary Service will form a nucleus for an organisation. In case of emergency, as appears possible at the present time, it will no doubt be necessary to enlist the services of veterinarians in civil life beyond the age limit, and those who have demonstrated their ability to do work and are more than 27 years of age. It will not be possible, therefore, for them to committee on Army Veterinary Service has just and try to build up a representative army veterinary

learned with much surprise and embarrassment that there is no provision made in the Act of June 3, 1916, for a Reserve Veterinary Corps. A provision was made for reserve veterinarians. They would receive the pay and allowance of a second lieutenant, but no rank. They must be graduated from a recognised veterinary college or university, and must pass a satisfactory examination as to physical condition, general education, professional qualifications, etc.

On March 2, 1917, a bill known as Senate Bill 8329 was introduced by Senator Watson which provides for plans for army re-organisation. It is understood that this plan is backed by the War College, and while it did not pass the 64th Congress a similar provision will be introduced in the Special Session. The following are the provisions made in

it for the Veterinary Service :-

Sec. 17. THE MEDICAL DEPARTMENT.—The Medical Department shall consist of one Surgeon-General, who shall be a permanent officer with the rank of major-general during the active service of the present incumbent of that office, and thereafter with the rank of brigadier-general, who shall be chief of said department; a Medical Corps; a Medical Reserve Corps within the limit of time now fixed by law; a Dental Corps; a Veterinary Corps; contract surgeons, as now authorised by law; the Nurse Corps, as now prescribed by law; an enlisted personnel and a temporary personnel.

There shall be three hundred and forty-eight veterinarians and assistant veterinarians for duty with the over-sea garrisons, the frontier forces, and the training forces, at the rate of two such officers for each regiment of Cavalry, one for every three batteries of Field Artillery, and one for each battalion of mounted Engineers and for duty with the Quartermaster Corps as inspectors of horses, mules, and meats; and the President is hereby authorised, by and with the advice and consent of the Senate, to appoint the additional number of assistant veterinarians authorised.

Candidates for appointment as assistant veterinarians shall have the qualifications and shall pass the examinations now provided for by law, with reference to rank, pay, and allowances; and the President is authorised to appoint such number of reserve veterinarians as may be required to attend public animals pertaining to the Quartermaster Corps as now prescribed by law."

It will be seen by this section that there are still no plans for a Veterinary Reserve Corps, It is proposed to amend this section as follows;—" For the purpose of securing a Reserve Corps of Veterinary officers for military service as temporary officers in the regular Army, the President is authorised to issue commissions to citizens of the United States who are graduates from a reputable veterinary school under such restrictions and with the same rank as is given to officers of the Medical Reserve Corps.

We should make every effort to induce our young enter the regular Army service. The special men to enter the regular Army Veterinary Corps

service. For the present emergency we should endeavour to provide a strong Veterinary Reserve Corps made up of the best men in the profession.

There is much work for us to do, The Federal Bureau of Animal Industry and those having charge of animal industries in the various States should do everything possible to conserve our animals and animal products and encourage animal husbandry. On account of the high prices of meat, leather, and all animal products, there is a great tendency on the part of farmers to dispose of their animals, which can only result in a shortage in the future and this shortage will be most felt when they are most needed. The best men in the veterinary profession can render a very valuable service to the country by assisting in purchasing animals, inspecting meat, controlling diseases of animals in the army and civil life and looking after wounded and sick horses in war. Unless Congress can be persuaded to provide for an Army Veterinary Reserve Corps, the veterinarians above the age limit in civil life who desire to serve their country in case of war had better join the infantry, artillery, or some other branch of the service.

C. J. M.

SOUTHERN RHODESIA.

ABRIDGED REPORT OF THE DIRECTOR OF AGRICULTURE FOR THE YEAR 1916. [Extracts.]

The number of farms under actual beneficial occupation is 2178, as against 2145 last year, and 2042 in the

year before.

The statistical returns regarding live stock and crops show that the country, in spite of war conditions, is progressing steadily, and that those farmers who have been unable to proceed to the front have at any rate kept up production and maintained our herds and flocks, our acres and orchards in an active, thriving state. The following figures indicate the area under European cultivation in Southern Rhodesia:—

Season Under crops Under crops Season 1916-17 Acres 254,702 1913-14 Acres 161,268 The figures for live stock for the year show notable

increases :-Cattle Goats Sheep European owned (increase) 73648 12149 3671

Native owned 45452 33403 31388

The position of the cattle industry, in spite of a few drawbacks, is thoroughly sound and satisfactory. Numbers increase steadily, and mortality is, as compared to other countries, very low. The net increase has been increase has been as the countries of the co high, in spite of a new and satisfactory cause of diminution in the form of export of slaughter stock.

An event of considerable importance during the year was the opening up of Johannesburg as an outlet for fat stock from Matabeleland. Much use has been made of this, to the evident advantage of farmers in the south and west. The number of cattle so exported during the

year was 12,719, valued at £112,003.

The practice of dipping, which has been a notable feature of recent years, has made more progress than ever before. For the last three years the number of dipping tanks was respectively 427, 595, and is now 761, whilst many are in course of erection. The natives, who still own a majority of the cattle in the country, show a remarkable willingness to adopt the practice of universal dipping, and have, with the encouragement of the Native Department, combined to erect numerous tanks, included in the above returns, in their reserves.

Veterinary research continues, and although much time is devoted to microscopic diagnosis and other laboratory work of a routine nature, progress can be reported, especially in the investigation of horse sickness and the inoculation of imported cattle. During the year provision was made for the commencement of the erection of much needed new veterinary research laboratories and a site selected, and it is hoped that construction may shortly commence.

The only experiments with live stock possible under existing conditions were the stall feeding of bullocks, and these were successfully carried out, 32 head being fattened off. Great interest is shown in these experiments, which are most timely in view of the growing practice of stall feeding for the butcher. The herd of breeding cattle consists now of some 48 Frieslands, having trebled its numbers in six years, and bulls are sold to farmers from time to time. The work of a stud farm is, therefore, in actual operation, though on much too small a scale to be effective, and with a breed which, however useful in itself for dairy purposes, cannot be regarded as being in much demand or popular in the country. The cattle have, however, done exceptionally well.

Further knowledge is being steadily acquired regarding a great variety of entomological matters, notably last year the distribution of tsetse fly, the habits and the means of destroying various cutworms, chafers, wire-

worm, surface beetles and kindred pests.

ABRIDGED REPORT OF THE CHIEF VETERINARY SURGEON. [Extracts.]

African Coast Fever. The year was marked by the appearance of coast fever in the Mrewa district, in which it had not at any time previously existed, and its re-appearance in Gwelo district after over ten years' freedom therefrom. In neither case have we been able to trace the source of infection or the means by which it was conveyed. The nearest existing centres of infection to the Mrewa outbreak were about 60 miles distant, in Salisbury district; and in the case of the Hunter's Road outbreak the nearest infected area is about 130 miles.

During the last week of May two beasts died on the farm Riverbend, in the northern section of Gwelo district. The carcases were rather too decomposed to permit of a satisfactory examination, but spleen and blood preparations examined microscopically left little doubt of the existence of coast force. As the district doubt of the existence of coast fever. As the district had been free from this disease for over ten years, and as no infection was known to exist within a radius of at least 130 miles, careful observations were undertaken to verify the diagnosis, and within a few weeks the disease was demonstrated in several animals. The following month the disease was discovered on the adjoining farm Cross Roads. The infected farms were fenced and compulsory dipping enforced in a large area around them, and so far there has been no suspicion of the existence of infection elsewhere in the district.

Direct transmission by cattle seems impossible, in view of the control exercised at all infected centres; indirect transmission, as by clothing, blankets, grass, etc., however improbable, is not impossible, nor is the malicious dissemination of infected ticks. Notwithmalicious dissemination of infected ticks. Notwith-standing these outbreaks in previously clean districts, the position generally shows a marked improvement compared with the previous year. There were fewer fresh outbreaks—20, as against 35—and a greatly decreased mortality—382 head, as against 1,174. Of the 38 centres on which disease occurred during 1915, only 15 showed infection during 1916.

mortality was somewhat heavy. It was reported that animals of all ages contracted the disease and that a number recovered. The heavy rains after several years of drought were probably the determining influence in the infection. Since the occupation, the existence of infection has been recorded on two occasions only. It is not unlikely that it is more widely distributed than our observations in the past would appear to show. A number of deaths are reported every year as the result of snake bite, of which probably a large proportion are really due to black quarter.

Tuberculosis. In a herd in the Umtali district an aged cow was destroyed as suspected of tuberculosis. Post-mortem and microscopic examinations confirmed the diagnosis. All in contact animals—56 head—were tested with tuberculin, of which 8 re-acted. Amongst the 12,719 head of slaughter cattle exported to the Johannesburg abattoirs, 5 cases of tuberculosis were

Contagious Abortion. A few fresh centres of infection were discovered during the year in the Salisbury and Mazoe districts. The present imperfect state of our knowledge of this disease and the conditions under which cattle are raised and managed in this country render it difficult to suggest measures for the eradication of infection or preventing its spread. A few of the infected herds have been inoculated with massive doses of dead bacilli. Although this process is alleged by certain authorities to be useless, the results appear to be favourable, but whether they are due to the treatment or other factors one cannot say. The recent investigations in immunisation with live cultures of the bacilli which have been carried out in England are most encouraging, but if such process is ultimately established as a satisfactory means of dealing with the disease, its application in this country would be impossible except in young heifers, and even then we should required to be assured that there was no possibility of animals immunised in this way becoming disseminators of infection.

Equine Influenza. An outbreak of this disease occurred in Buluwayo and adjoining districts during September. Fully 90 per cent. of horses, many mules and donkeys were affected. A slight mortality occurred amongst donkeys and mules, but none in horses.

2nd April.

J. M. SINCLAIR, Chief Veterinary Surgeon.

The Basle Anatomical Nomenclature (B.N.A.)

The following sentences are from a long letter to The Brit: Med: Jrnl: by Prof. ARTHUR KEITH:

"In 1889 a Commission was appointed by the Anatomische Gesellschaft. After six years of effective labour the Commission submitted to the German Anatomical Society, when it met in Basle in the early summer of 1895, a new nomenclature, which was adopted by the Society and named the B.N.A.—Basle Nomina Anatomica. The members of the Society received it without demur; it was primarily intended to secure uniformity in German schools; there was no intention

of dictating to the rest of the world."

"... That is the first point we have to remember.

The nomenclature (B.N.A.) which is now being pressed on us was designed not for us but for the needs of German schools. . . . In short, the B.N.A. was founded on the usage in German schools, and no attempt was made to bring the new nomenclature into harmony with the usages in France, Italy, Russia, or English-speaking

countries.

"How does it come about that a scheme of names compiled under the circumstances just narrated, is being forced on English-speaking medical men? To obtain gained if I have made physicians and surgeons realise an insight to the commencement of the movement we

must turn to the introduction which Prof. Llewellys F. Barker. Sir William Osler's successor in the Chair of Medicine at Johns Hopkins University, wrote to a work which he published in 1907, and entitled Anatom-

ical Terminology.

'Now that the N.B.A. is being followed in medical and scientific schools throughout the world,' he wrote, and has been adopted as the language used in several newer English and American anatomical text-books and atlases, it has occurred to the publishers of Morris's Anatomy that a concise statement concerning the origin and exact nature of this list of anatomical terms would be interesting and helpful to anatomists,

physiologists, biologists, pathologists, and clinicians.'
Now I can assert without fear of contradiction that,
in the year 1907, there was not a single anatomical
school or teaching hospital throughout the whole length and breadth of Great Britain and Ireland in which the B.N.A. had been adopted; there was not a school in which there was any wish to adopt the new nomenclature *en bloc*. But it did occur to the publishers of an excellent and deservedly successful text-book on anatomy to adopt the new nomenclature. What have publishers to do with the terminologies to be used by medical men? Publishers make commercial adventures, and in making such adventures we cannot blame them if they exploit, as milliners do, the calls of fashion. If the new fashion 'catches on' old wares go out of date and become unsaleable. It was under the ægis of publishers that the German terminology—which we politely name the B.N.A.—was introduced to English-speaking schools. There always has been, and always will be, in every class a very considerable section which is susceptible to fashion, and mistakes movement in a circle for real progress. It is that section which has capitulated to the new nomenclature—as the publishing trade

hoped it would."
"In this country we had reached an approximate state of uniformity as regards the use of anatomical terms—as near the ideal as we are ever likely to attain. No one regarded the nomenclature as an ideal one, but it was believed to be worth while to submit to its imperfections in order to retain uniformity. But now that uniformity is gone the time has come for every medical man, be he teacher or pupil, to use his best judgement at the present juncture of affairs. Three courses are open to us: (1) to accept the BNA, with all its defects, as the standard English nomenclature; that course will not be adopted in either France or Italy. (2) To retain our present nomenclature, with all its disadvantages. It is based on the system which prevails in France and Italy. (3) To accept such terms from the B.N.A. as are manifestly more apt than those we now employ.

It is the third course which I would press now on the attention of medical men. Its advocates speak of the B.N.A. as if it were a decalogue to be obeyed in its entirety; it never seems to have occurred either to Prof. Barker or Dr. Jamieson that it was possible to accept the good and leave the bad. That, however, is

what one hopes may happen."
"Medical men must insist on a freedom of choice. At the very least we must keep in mind and be influenced by the usages and needs of France, Italy, America, Russia, Holland, Denmark, Norway, and Sweden, as well as by those of Germany and Austria.

I do not propose now to enter into an analysis of the merits and demerits of the Basle nomenclature. All that I would request in the meantime is that medical men should remember that English-speaking anatomists are heirs to a goodly heritage; in no country has anatomy been exploited by the practical man more than in our country, and our nomenclature has been shaped for our practical needs more than in Germany. My aim is

(July 17).

whelm the system which they learnt in their college days. They must not think, when students and young medical men speak to them of the internal lateral as the tibial collateral ligament of the knee-joint, or the internal lateral as the ulnar collateral of the elbow-joint, or the auricle of the heart as the atrium, or the base of the bladder as its fundus, that they themselves are out of date; they should regret that such a student should be suffering from the wrong headed zeal of teachers who are willing to sacrifice the living spirit of English anatomy for the Dead Sea fruit of a foreign terminology.

Royal College of Surgeons of England, London, W.C. July 18th.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Sept. 17.

The King has been pleased to approve of the following Rewards for distinguished services in the field:—

DISTINGUISHED SERVICE ORDER.

Capt. (Actg. Maj.) Edward George Turner, A.v.c.

The names of the following have been brought to the notice of the Secretary of State for War for valuable services rendered in connexion with military operations in the Field:—

EGYPTIAN ARMY.

El Yuzbashi (Capt.) Súliman Effendi Izzat, Vet. Corps. Narfar(Pte.) Mohammed Yusif Ali Yusif, 277, Vet. Corps.

War Office, Sept. 14.

REGULAR FORCES. ARMY VETERINARY CORPS.

To be temp. hon. Capts.:—W. F. Armstrong, E. C. Winter, J. Gregg, J. Brown, J. D. Knowles, E. A. Ryan, P. R. Thompson, T. A. Connolly (Sept. 15).

To be temp. Lieut. :- R. Gorman (Aug. 24).

To be temp. Lieut. :-F. McD. McKenzie (Aug. 26).

Capt. (temp. Maj.) W. H. Simpson to be actg. Lt.-Col. (Aug. 30).

Sept. 20. Temp. Lt. to be temp. Capt.:—J. B. Russell (Sept. 5).

CANADIAN A.V.C.

Sept. 18. Temp. Capt. W. G. Stedman to be temp. Maj. whilst empld. as A.D.V.S., vice Lt.-Col. H. D. Smith (Apl. 27).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.
Sept. 18.
Capt. (temp. Maj.) W. L. Harrison, F.R.C.V.S., to be Maj.

The following casualty is reported:—
DIED—Pte. J. W. Anderson, 24699 (Leeds).

ANTHRAX BACILLI IN SUGAR.—Reuter's agency learns that Swedish papers that have reached France announce the discovery at Karuna, in the north of Sweden, of sugar containing anthrax bacilli. The authorities believe this sugar belonged to three Finns expelled from Sweden last April, and who, during court proceedings, declared they were in the Finnish battalion, and had come direct from Germany. They intended proceeding to Russia, but were stopped at the frontier. After their arrest at Karuna, the box containing this infected sugar was found.—Eastern Morning News.

TETANUS BACILLI—Mr. W. B. Smith, Federal chemist, Kansas, recently reported that court plaster which is being sold throughout the State is full of tetanus bacilli. This report led to the arrest of five Germans. Samples of the plaster are being examined by the United States Department of Justice.—B.M.J.

TREATMENT OF ECZEMA.

Dear Sir,—I quite agree with Mr. W. R. Davis' remarks in The Record of Sept. 15th, which coincide with my own practical experience of over twenty years. Now cracked heels in horses is Acute Dermatitis, and in some cases difficult to cure, even requiring actual cautery to heal the lesion and remove the lameness. Again, for example, rope galls in army horses, due to being "picketed out." What better dressing is there than Liq. plumbi subacetas, olive oil, with, if any tendency to septic infection, the addition of Acid carbolic as germicidal and sedative to skin, which I

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Pariod		Anti Out-	hrax Ani-	Foot- and-Mouth Disease.		Glanders† (including Farcy)		Parasitic Mange.		Sheep Scab.	Swine Fever.	
Period.		breaks	mals.	Out-	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks	Out- breaks.	Slaugh- tered.
IR LAND. Week ended Sept.	8		4,4					Outb	reaks 2	5	3	10
Corresponding Week in $\left\{\begin{array}{c} 1916\\1915\\1914\end{array}\right.$									4 1 2	14 6 2	6 6 1	21 5 6
Total for 36 weeks, 1917		3	5			1	1	3	9 .	276	182	1070
formsponding period in { 1916 1915 1914		3 1 1	7 1 1	76	957	ï i	3	5	2 4 4	292 296 392	230 181 159	1306 1005 825

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 10, 1917

Note — The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

a protective bandage applied to complete recovery.

I am now treating a case of canker in the horse, all four feet affected, with Mr. Davis' Canker foot-dressing, and up to date of writing I quite anticipate ultimate recovery. I am personally applying the dressing to give it a fair chance

Folkestone.

HENRY B. EVE, M.R.C.V.S.

FOREIGN BODY IN THE HORSE.

Dear Sir,-In your issue of July 14th, received to-day, I note the case of a foreign body being found in a horse by Capt. W. T. Olver, A.v.c., and his theory as to how it came there. The "ten cent cure" is well known amongst the old-time farmers of Canada for the cure of "shoulder sweeny," and I have seen some remarkable results from A slit is made in the skin horizontally, the skin below is then loosened from the flesh to make a small pouch, into which a clean ten cent piece is dropped, the horse being then turned out to pasture. Occasionally the coin is lost sight of, and may remain in the animal's body till death without its presence being suspected, unless it is noticed as in the case cited by Capt. Olver.

I would be very interested to know if Capt. Olver noticed if the animal in question showed any signs of having suffered from muscular atrophy?-Yours truly,

Harris, Sask., Canada. Aug. 11, 1917.

HARRY HILL.

Prolongation of immunity against Tetanus.

Vallei and Bezan (C. R. de l'Acad. des Sciences, June 25th, 1917) draw attention to the short duration of passive immunity given by antitetanic serum and to the need for devising a method for prolonging immuni-sation. The method they propose is to immunise by means of tetanus toxin attenuated by iodine, according to Roux's plan. A toxin lethal to guinea-pigs in the strength of one hundred-thousandth of a cubic centimetre to 2.50 grams of body-weight was used, and the iodine solution consisted of one grain of iodine and two grains of potassium iodide in 200 c.cm. of water. Seven black wounded soldiers were treated by injections of the toxin-iodine mixture at intervals of five days. first injection was 1 c.cm. of a two thirds toxin and onethird iodine solution; the second injection was 2 c.cm. of the same solution; the third injection was 5 c.cm of a three-fifths toxin and two-fifths iodine solution. Seven rabbits were treated with the same doses at the same After ten days the rabbits resisted a 2000 intervals. minimal lethal dose of toxin. Another batch of rabbits treated with one-third of these doses resisted a 200 minimal lethal dose at the end of ten days. The authors point out that for primary injection reliance should be placed on antitoxin, as the immunity from vaccine does not reach its maximum until after ten days. It will be necessary to determine the relative duration of immunity following repeated vaccinations. If the period of immunity proves satisfactory this method should overcome the grave inconveniences of serum rash and serum Other observers have obtained satisfactory sickness. results in the immunisation of horses upon the same plan.—Brit: Med: Jrnl:

Pig dealing and Swine Fever.

The store pig trade is an impracticable and unprofitable nuisance—for nothing connected with the industry

has done so much to ruin it.

Whereas we are able to breed all the pigs we require for our bacon and hams without going to Denmark or the United States for a single pound, we have permitted the growth of a system of dealing—buying and selling which accounts more than all other causes for the spread almost double as much for their food as they ought to of swine fever, and the consequent determination of do by purchasing in small quantities of small dealers.

have used in a number of cases treated with success, with thousands of men to have nothing to do with breeding

and feeding.

Pig breeding well pays the man who feeds his own stock, but it does not sufficiently pay those who breed and sell for others to fatten, or those who buy for this purpose from the breeder or the dealer. Dealing is a legitimate business, but it is not desirable in the interests of the country. So long as swine fever exists there should be neither dealers nor markets. If a man must sell his young stores he should do so through some other channel, and follow the example of the poultry breeder and advertise, and so with the buyer. There would be little difficulty among farmers who meet at weekly markets, and can easily learn from each other where pigs are on sale, or where there are buyers. One fact is undeniable, the pig will not bear two respectable profits, certainly not that of the dealer as well, and the sooner the breeder recognises that by feeding his own pigs he will gain the profit which the buyer of stores expects, the better it will be for himself. And so with the feeder of purchased pigs. He must be well aware that the breeder would not be willing to sell at a loss, and that the profit he takes ought to belong to him if he took the trouble to breed as well as to feed.

Without careful accounts there can be no accurate knowledge of how much is gained, or whether there has been a gain or a loss. In the first place no breeder can know the cost price of his weaners, or stores of greater age, unless he knows what it has cost him to feed their sow. He ought to ascertain precisely what food she consumes, and its cost, from the date on which her last litter was weaned. The cost of feeding the sow from weaning until she litters again, together with the cost of the food consumed by herself and her pigs, until they are weaned, constitutes the just charge on the litter, and this, with the addition of charges for interest on the capital invested, should be the basis of valuation in pricing the pigs and, therefore, in estimating the profit gained. If a sow costs 2s. 6d. a week for a period of four months after weaning, and an average of 7s. a week from farrowing until weaning again, there will be a charge against the pigs of five guineas under normal conditions. conditions. If the youngsters number ten, and sell at an average price of 25s., they will pay handsomely, making every allowance for other expenses. Under present conditions figures have changed, the cost of food being quite as abnormal as the cost of pigs and their produce, but even now the profit should be quite as large in a well managed piggery as in the days before the war.

CARELESS BREEDING.

One reason why profits of breeder and feeder are smaller than they ought to be at all times, is that there is so little care taken in the selection of breeding stock. Sows used are small, weedy, and wanting in vitality and prolificacy, a condition which is emphasised by their confinement to sties with small courts, and their general lack of freedom, exercise, and green food. Sows are moreover mated in a general way with most imperfect and underbred boars, although many of these are

undoubtedly pure.

Instead of first looking for a written pedigree with a boar, a breeder of pigs should look to the pig and see that his pedigree is warranted by his appears. Pedigree is of no value whatever in connection with an imperfect specimen, whether boar or sow, but a good looking specimen is all the better for pedigree because it proves that his appearance is not an accident, but has been

perpetuated by careful breening.

CARELESS FEEDING.

Another cause of failure is careless or indifferent feed-Many persons who feed in a small way, pay

The price of maize and barley in Mark Lane is often one half, or nearly one half less than the cost of the gallon or peck of a local dealer, who lives upon the small sales he makes to people who are unable to buy by the

sack or the ton.

Wrong food, too, is often supplied to pigs, a barley of bry inferior quality is a well known example. The very inferior quality is a well known example. craze for sty-feeding, and the fact that so many keep pigs who have no other means of housing them-and no opportunity of giving them liberty, has induced pig-keepers in general to provide concentrated foods in all forms. The small breeder or feeder is compelled to use such foods, having no recourse to a pasture, and few opportunities of obtaining green forage, mangels, sweeds, carrots, or parsnips, all of which are of great value in the maintenance of a sow at very little cost, where they are grown on a holding, as in providing part of the ration of a fatting pig. Barley crushed by the feeder himself from a good sample, is a cheaper and better food than average barley meal; sharps are cheaper still, and these foods with crushed maize and some roots will effect all that is needed .- J. L., in Home and Farm.

Swine Fever.—Charge of exposing diseased animals dismissed.

At Colchester, on Friday afternoon, 14th inst., before Mr. R. B. Beard (in the chair) and Alderman E. A. Blaxill, Alexander K. Barlow, Wivenhoe Hall, was summoned for exposing eighteen diseased or suspected pigs in the market. The Town Clerk prosecuted, and Mr. H. W. Jones defended, and pleaded not guilty.

The Town Clerk said he did not wish to unduly press

the case. The Veterinary Inspector (Mr. Rowland Taylor) was on duty in the Cattle Market on July 28th, when he saw 18 pigs-16 being in two pens and two others in another pen a few yards away. He examined them and found that the two had swine fever. The affected pigs were killed and the other sixteen were inoculated.

Mr. Jones: I have kept pigs for years, and have only called the veterinary surgeon in once, and then he said the only thing the matter with the pigs was that they were hopelessly drunk; someone having given them

sloe gin. (Loud laughter).
Police Inspector Wynne, Mr. David Graigie, Inspector of the Board of Agriculture, who agreed that no living man could tell if a pig had swine fever without a postmortem, and P.-s. Pryke, County Police, who said that when asked why he had not reported the illness of the pigs, the defendant said he was unaware that anything was the matter with them, gave evidence for the prosecution.

Mr. Jones said Mr. Barlow was not an expert with regard to pigs, and he knew nothing about them having swine fever. There was nothing to give him the slightest

suspicion that the pigs were affected.

Evidence supporting that statement was given by Mr. Barlow, David Hughes, and George Joyce, employes of the defendant, and Mr. W. T. Rainbird, of the firm of Stanford and Co., auctioneers.

The Magistrates, after retiring, found that Mr. Barlow had no knowledge of the swine fever, and under Section 57 they dismissed the case. The Chairman added that they had no doubt that the pigs were suffering from swine fever, as the Board of Agriculture certificate certified.—East Anglian Daily Times.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anth	Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Swine Fever.	
Period.		Out- breaks mals.		Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- preaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.		
GT. BRITAIN.				i		1		1	1	1		i ` ` i		i
Wee	k end	led Sept	t. 15	5	5			1	1	15	24	4	15	8
Corresponding week in	{	1916 1915 1914		6 9 13	6 10 14	2	6	2 1 3	5 2 8	16 8 4	28 25 4		62 39 78	55 97 732
Total for 37 weeks	, 1917			338	396			20	34	1922	3710	399	1755	762
Corresponding peried in	{	1916 1915 1914		385 433 538	455 494 588	1 22	24 108	38 38 78	96 68 231	1731 605 1526	3899 1311 2638	185 160 155	3425 3093 2960	8716 13703 30000

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. (1) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Sept. 18, 1917 † Counties affected, animals attacked :- Essex 1 Excluding outbreaks in army horses.

IRELAND. Week ended Sep	t. 15							Outbreaks	5	3	6
Corresponding Week in $\begin{cases} 1916\\ 1915\\ 1914 \end{cases}$:::		:::				2 2 1	9 9 5	4 5 1	52 32 11
Total for 37 weeks, 1917		3	5			1	1	39	281	185	1076
Corresponding period in $\begin{cases} 1916 \\ 1915 \\ 1914 \end{cases}$		3 1 1	7 1 1	 76	 957	 1	 3 	54 56 65	301 305 397	234 186 160	1358 1037 836

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 17, 1917. Note.—The figures for the Current Year are approximate only. As diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1525.

SEPTEMBER 29, 1917.

Vol. XXX.

VETERINARY TERMINOLOGY.

Prof. Arthur Keith, an anatomist of the highest distinction, has recently called attention to the present unsatisfactory condition of the nomenclature of human anatomy in this country. There is also room for improvement in British veterinary anatomical nomenclature, which, though not in the dire confusion which obscured it thirty years ago, is still not perfect. Unfortunately anatomy is far from being the only subject regarding which British veterinarians need to reconsider their terminology. The need is just as great in some other subjects; and nowhere is it more obvious than in the two which, after all, most concern the practitioner, viz., clinical medicine and surgery.

The subject is rather a complicated one; and therefore, we only discuss it to-day from one point of view. Perhaps the most important, though not the only requisite for the name of a diseased condition is that it should be sufficiently definite. It should specify one condition, not embrace a number of diverse ones; and here our present terminology, as many clinicians use it, is open to grave objections. The common surgical terms of ringbone and quittor are two of the most glaring examples. There are men who use the word "ringbone" to signify almost any phalangeal exostosis, or "quittor" to include almost all sinuous wounds of the coronary region. Others restrict the term "ringbone" to an exostosis involving an articulation and accompanied by arthritis, and "quittor" to a sinuous wound of the coronary region involving a lateral cartilage. The latter terminology renders each word a specific name for one serious condition. The former one widens the the meaning of each word to include other very different and much less grave lesions. There can be no question which of the two conduces most to scientific exactitude.

Of course, the nomenclature of medicine and surgery will never be absolutely satisfactory; but the extreme looseness of expression evident in these examples could and should be removed. The nomenclature of human medicine and surgery is much more exact than ours; and periodical official revision does something to keep it so. No such procedure has ever yet been attempted by the veterinary authorities of this country; and it is time a commencement was made. For the R.C.V.S. to appoint a Revising Committee would be the quickest and surest way of removing at least the worst defects from our terminology. Before many years pass we may be asked to join in working for an international veterinary nomenclature; we really ought first to reform our indigenous one.

TREATMENT OF ECZEMA.

By W. R. DAVIS, M.R.C.V.S.

It appears from Mr. Gray's article in your last issue that at any rate one eminent member of the profession is not in accord with Prof. Macqueen's generalisation—that a practitioner who uses greasy preparations in the treatment of eczema is simply prolonging the case.

I did not suggest that every case of eczema ought to be treated by greasy applications; the point is whether such remedies are contra-indicated in eczema.

Last summer, in calling at a farm to attend a horse, I was asked to go into the house to see my client, who was in bed suffering from a severe attack of eczema. He lay on the bed with just a sheet over him. The skin of his face was livid and greatly swollen, the orifices of eyes and mouth appeared like small slits in the enormously swollen surroundings. The skin of the body generally was in the same condition, and the scrotum was as large as a man's head—a frightful object. The patient was covered with a greasy preparation-I think Oxide of zinc ointment. A fairly rapid recovery was made, and so complete that not a trace of the skin affection is now visible.

Mr. Gray sneers at the old doctor's preparation for the treatment of burns, but if the object is attained it does not much matter whether the pharmacy is elegant or not. The oil and whiting mixed in a gallon jar cured the burns, and the Zinc oxide rubbed up on a porcelain slab with benzoated lard, and sent out in a covered pot, could do no more than cure the eczema.

I am asked whether I would use greasy applications in peracute exudative eczema, or in dry or moist seborrhoic eczema. I quite expect that I have committed that enormity. I do not apprehend, however, that anything tragic arose from my indiscretion.

I confess frankly that in presence of many acute cases of skin diseases in dogs and horses I am puzzled to know into what category they ought to be placed, but that does not hinder me from treating them, nor does it make me envious of those more facile persons who at a glance can place each case in its proper division. I do not for a moment suppose that the doctor who cured the burns, or he who cured my client, could have named the degree of the burns or the classification of the eczema, or in either case what layers of the skin were involved, nor do I imagine that their treatment was much prejudiced by the absence of such knowledge.

Mr. Gray states that what would suit a pigmented skin would in all probability be injurious

to a pigmentless skin.

Some years ago I was called to a chestnut carriage horse affected in both hind legs with a very severe form of eczema. The skin as far as the thighs was greatly swollen, extremely painful, and serum exuded from its surface. Both legs were white to just above the hocks. It might have paid to prescribe a lotion for the chestnut parts and another for the white, and indeed we know that a bottle for the pain and one for the swelling was by no means uncommon in other days.

I have not used washing soda for burns but I have employed picric acid, and the much vaunted iodine also for these lesions, and I am satisfied that oily preparations are greatly superior to them.

As you, Mr. Editor, point out in your footnote to Mr. Gray's article, the question is, Why an oleaginous dressing may be used to skin damaged by heat, and why a contra-indication arises when the damage is due to other causes?

"Gentle shepherd, tell me why."

CLAVICEPS PASPALI POISONING IN CATTLE.

R. PAINE, F.R.C.V.S., Govt. V.O., Kokstad.

Paspalum dilatum is a grass widely grown in the Union of South Africa, and is affected by a special form of ergot which produces very characteristic symptoms.

When the seed head is affected it is covered with a peculiar shiny, sticky material which is readily

detectable.

So far I have only seen bovine females affected, no males having access to the affected grass, and in one case where calves were running with the cows, they showed no symptoms. Upon one farm some fifteen head had been grazing on affected paspalum all the summer, and when fifty fresh animals were placed in the same camp they developed symptoms within two days, although the original fifteen which were with them remained healthy. The conditions of age, sex, etc., were identical in each herd.

Symptoms. The cases may be well described by stating that the animals appear to be heavily drugged or intoxicated. They stagger and sway, especially behind, the eyes are protruded and staring, breathing hurried; there is muscular twitching, particularly over the shoulders. Sometimes the animals may be inclined to charge, some cases are totally unable to rise for two or three days.

The animals continue to feed and ruminate, and in no case did abortion occur. The milk supply is arrested for the time being.

Mortality—nil.

Duration of illness. Slight cases one day; bad

cases up to ten days.

Seasonal attack. Two farms affected in April, at which time of the year paspalum is badly attacked in these districts. The occurrence of the case on one farm A, in August is explained by the fact that it was caused by packed paspalum hay which had gone to seed, and that the cattle had not had a previous opportunity to get at this hay.

ABSTRACTS FROM FOREIGN JOURNALS.

THE PROPHYLAXIS OF FOOT-AND-MOUTH DISEASE.

Hoffmann, in Die Oesterreiche Wochenschreft für Tierheilkunde, some six years ago, published an article upon this subject. He considers that veterinary prophylactic measures are at least as efficacious against foot and-mouth disease as medical measures are, for example, against cholera. To make prophylaxis even more efficacious, it is necessary to work to discover the causal agent of the disease. This has been impossible hitherto; but prophylactic measures may be further perfected, on the one hand by improving the conditions under which animals are kept, and on the other by avoiding infection of the feet from the buccal lesions.

Hoffmann lays stress upon the latter point. He is convinced that the lesions of the feet are caused by the flow of virulent saliva down the fore limbs. To avoid this he proposes to collect the saliva in appropriate receptacles fixed muzzle-wise to the heads of the patients, taking great care not to spill the saliva upon the ground. In addition, he advises that the hoofs should be protected against possible infection by applying an antiseptic ointment before any lesion appears.

When the disease has appeared upon a farm, Hoffmann advises the use of the saliva to produce a benign form of the disease among the animals still unaffected. For this purpose the virulence of the saliva is attenuated by heat or by the addition

of an antiseptic.

Hoffmann also thinks that the milk of affected cows may be a good preventive and curative agent. To confer immunity upon healthy subjects and to obtain satisfactory curative results, he suggests that the milk should be collected aseptically, reduced in virulence by heat or the addition of an antiseptic, and injected with aseptic precautions into the peritoneal cavity.—(Revista de Higiene y Sanidad Veterinaria).

W.R.C.

DIET AND ABORTION. Dr. Pierre A. Fish, Ithaca, N.Y.

The following is from the Editorial pages of the Journal of the American Veterinary Medical Association:—

"It is probably a natural common belief that all of the requirements have been met when a balanced ration for the animal has been prepared. So long as the proper proportion of digestible protein and energy producing material is present, little thought is given as to its source or that it should have anything but a beneficial effect upon the processes of growth and reproduction. It might be expected that just as vigorous offspring should result, no matter where the material of the diet came from, so long as it was arranged in a balanced form.

That this view needs some modification has been pointed out by Prof. E. B. Hart, in a paper on "The Influence of Certain Natural Feeding Materials on Growth and Reproduction," presented at the last meeting of the Wisconsin Veterinary Medical Association. Experiments were tried on a group of grade Shorthorns while they were at an approximate weight of 300 pounds.

Balanced rations were prepared from the corn, wheat and oat plants, and a mixture of the three. It was observed that the animals grew fairly well on all the rations but it could be seen that those receiving wheat were not as vigorous or well developed as the other lots.

Another experiment upon some young grade Holsteins with corn and wheat rations showed that those receiving the corn ration grew well, matured, showed early costrum and were physically strong in every respect; while those receiving the wheat ration grew only at a fair rate, and when they attained the weight of 1000 pounds they ceased to grow. They began, in fact, to lose weight and showed no vigour. There were evidences of physical weakness, and even blindness ultimately resulted. They showed no cestrum, and to have continued them for breeding purposes was utterly futile. So prenounced was the emaciation that it was deemed advisable to kill them.

Because of the prevalence of contagious abortion in this country it might naturally be asked if this affection might not enter into and complicate the results of the experiments. Such a contingency was considered, and during the course of the experiments the animals were placed under the observations of, and tests made by, a competent veterinarian, who declared the animals to be

free from the disease. With an oat ration or a mixed ration, the offspring were good, but in no case did they appear to be quite so vigorous as those fed upon a corn ration. While it may appear in general that a mixed ration is safest, it may, nevertheless, be shown that a restricted ration may be physiologically perfect and a mixed ration may contain something deleterious to its physiological value. When a corn fed animal was changed to a wheat ration it became exceedingly stiff, and if the wheat ration was con-

tinued too long prostration would result.

Attempts to locate the trouble in the wheat ration showed, for one thing, a deficiency of a proper salt mixture. If an animal was fed upon corn grain and wheat straw the offspring were weak and sometimes born dead. When to the same ration a suitable salt mixture was added, perfect offspring resulted. If the corn grain of the ration was displaced by wheat grain and the salt mixture added, disaster again resulted. Evidently something more than the salt was responsible. The second factor appears to be an inherent toxicity in the wheat grain. This toxicity was not apparently affected by heat; for when baked wheat was fed there was no improvement. The addition of butter fat to the wheat ration, to supply the growth promoting factor was not uniformly successful. There was failure as well as success.

When wheat grain was mixed with a legume hay, such as alfalfa, so that the alfalfa formed but 20 % of the ration, there was perfect success, and normal offspring were produced.

Later work has shown that the toxic material is very largely present in the embryo of the seed. When wheat embryo was imposed on corn stover so that the ration contained four to five times the amount of embryo as would ordinarily be present when whole wheat was fed, an early abortion resulted—the calves being dropped at six or seven months.

In the process of milling the embryos pass into the wheat bran in small amount, but in wheat middlings they appear in much greater quantity.

Histological study of the spinal cord of animals fed on the wheat ration revealed an redematous condition of the motor cells and an appearance of compression and partial degeneration of the cells. The effect upon the nervous system would suggest a cause for the blindness which occurred in some cases.

The experiments are of great interest in showing the limitations of the theory of a balanced ration: they in-

dicate the importance of factors other than the presence of protein and latent energy in the successful diet; the necessity for the proper balance of inorganic salts in directing the metabolic processes of the body, is well illustrated; the presence or absence of vitamines (growth promoting substances) concerning which our knowledge is yet too limited, and their relation; to deficiency diseases; all emphasise how really complex the problem of nutrition is and how fundamental it is in attaining the best results.

Aside from its great physiological interest, the work of Prof. Hart should also have a very direct interest in relation to abortion disease—the disease which, at present, is such a menace to the cattle industry of this country. It is possible, in some instances, that abortion may be an affair of nutrition rather than of the *Bacillus* abortus. In the wheat growing districts, it may be expected that wheat in some form may serve as a portion of the ration. If to this the abortion bacillus be added, the course of the disease should be facilitated. On this ground contagious abortion might be expected to be more prevalent in wheat growing districts. Statistics would be interesting. Since the experiments indicate that strong, vigorous offspring are produced when a corn ration is fed, it might be expected that abortions might be less frequent in corn raising districts. Even when the problem is complicated by the presence of the abortion bacillus, it might be expected that a corn ration might assist in conferring increased resistance to the ravages of the disease. Again statistics would be

interesting.

All of this should be of interest to the practical veterinarian. Physiological as well as pathological factors in conjunction with sanitation should be considered. In the light of the experiments, the least that can be done is to inquire into the diet.

NORTH MIDLAND VETERINARY ASSOCIATION.

A meeting was held at Sheffield on June 26th, when the following were present:—

T. C. Fletcher, Sheffield, President; H. Thompson, Sheffield, Hon. Treasurer; J. S. Lloyd, Sheffield, Hon. Secretary; Messrs. T. Bowett, Worksop; W. Collinson, Anston; R. Hudson, Retford; E. Marrison, Bakewell; W. Murgatroyd, S. H. Nixon, S. E. Sampson, Sheffield; M. Robinson, Barnsley; and F. L. Somerset, Chesterfield. Capt. Oxspring, A.v.c., and H. R. Laycock, Sheffield, were also present as visitors.

Apologies for inability to be present were received from J. A. Hodgman, Barnsley, and J. S. Wheatcroft, Wentworth, Rotherham.

The first part of the proceedings was a series of operations by Mr. R. Hudson, carried out at the Veterinary Infirmary of Mr. S. E. Sampson. The visitors were received by Mr. and Mrs. Sampson, who kindly provided light refreshments.

The first operation was castration of a colt by a painless method. Castration was done in the standing position, and the hemorrhage stopped by the actual cautery. Next, an operation for radical cure of a large umbilical hernia in the horse. Another very interesting case was submitted by Mr. Sampson to the gentlemen present for diagnosis.

The company adjourned to the Grand Hotel, Sheffield, where tea was provided at the expense of the Sheffield members of the Association. The general business of the quarterly meeting followed, the chair being taken by Mr. T. C. Fletcher. President of the Association.

the quarterly meeting followed, the chair being taken by Mr. T. C. Fletcher, President of the Association.

The minutes of the last meeting, having been published, were taken as read, and on the motion of Mr. Collinson, seconded by Mr. Fletcher, were adopted.

The report of the Council meeting held on June 12th, was also received and adopted on the motion of Mr.

S. H. Nixon, seconded by Mr. Robinson.

Captain Oxspring, A.v.c., was nominated as a member of the Association by the President, the nomination being seconded by Mr. Sampson.

AN OPERATION FOR THE RADICAL CURE OF UMBILICAL HERNIA,

By R. Hudson, f.r.c.v.s., Retford.

The hernia was of large size—about seven inches transverse diameter, and about eight or nine inches in depth. The opening in the abdominal wall was elliptical in shape about five to six inches in the longer diameter. The edges of the abdominal wall were thin, and became more so towards the pelvic rim where they could not have been more than 3/16 in. in thickness.



Having prepared and shaved the skin over the region of the hernia a longitudinal incision was made through the skin over the abdominal of ening, the peritoneal sac separated by fingers and knife to avoid hæmorrhage as much as possible, and the point of union of the umbilical

cord being left attached to the peritoneal sac.

Around the abdominal opening the sac was carefully separated with the knife, to prepare a surface favourable for union when brought together by suture. The sac was squeezed from end to end, and no adherent bowel being present it was twisted and a needle carrying a strong silkworm gut ligature was passed through close to the opening. This ligature was passed tightly round the neck of the sac and tied.

Owing to considerable strain and the slippery surface of the peritoneum it failed to hold when the sac was removed, so the edges were taken up in forceps and a purse-string suture applied, as follows:—Penetrating the abdominal wall on one side about the centre of the opening, a wire suture was passed out through the peritoneum at the edge, in again at the opposite edge, and out through the abdominal wall, drawn tight and twisted. The index finger passed through a small opening made in the peritoneum at the lower end guided the needle across; wire was used because it does not slip when twisting up like silk or gut when tying.

Only one wire suture was necessary to prevent undue strain on the sutures, which were next passed through the edges of the abdominal opening, taking the same direction as the wire suture. These sutures were of strong silkworm gut, placed a little over \(\frac{1}{2}\)-inch intervals, and were passed with a handled needle slightly curved to return the organ, but owing to the straining of the

and eye-slit at the point. Having completely sutured up the opening, the wire suture was removed.

The large quantity of loose skin was difficult to deal with. When the portion not required was cut away it was found that the end of the wound reached to the opening of the prepuce where the skin was very loose. Finding that the skin when brought forward from the posterior end to the front approximated well into a V-shaped wound, it was sutured in that position. Having seen the colt urinate before the operation and noticed that he did not "draw" properly, the position of the wound would be more favourable should he continue to urinate into the prepuce.

The outer wound was dressed with weak Sol. iodine, and dusted (over with Iodoform and Boracic acid, the

latter being continued as a dressing.

About forty-five minutes before operating, the colt (a three-year-old half-bred) received 4c.c. Liq. ext. cannabis Indica intravenously. It acted well, for when sent for Indica intravenously. from the stable the colt's head was resting on the manger and he stood almost asleep. During the operation he only flinched slightly when the skin was cut.

The Cannabis Indica solution was composed of Ext. 1 part (Borroughs, Welcome), Alcohol, 2 parts. It

should be filtered and injected very slowly.

The President proposed that a very hearty vote of thanks be given to Mr. Hudson, and said that they were obliged to him for stepping into the breach so that the Association could have a business meeting instead of the usual Summer pleasure meeting. The vote of thanks was seconded by Mr. Somerset and supported by Mr. Sampson. The latter mentioned previous opera-tions which he had carried out in similar cases, some being fairly successful, others being followed by strangulation and death.

He preferred the radical operation, and hoped that in the case they had had that afternoon it would be successful. He welcomed all present and had hoped more would come. The vote of thanks was carried with acclamation, and Mr. Hudson replied.

CLINICAL CASES.

S. E. Sampson, M.R.C.V.S., Hillsbro', Sheffield.

INVERSION OF THE BLADDER.

Subject. A brown 6-year old Shire mare, which was reported to me as having foaled the day previously a live healthy foal; the mare had cleansed, but was straining at intervals of varying periods. The owner not thinking anything serious was amiss, requested me to supply some suitable medicine, which I did, giving a few $\frac{1}{2}$ -oz. doses of Chloral hydrate, to be given every six hours in water. On the following day the owner reported the mare to be much better and no further treatment needed.

Three days later I received an urgent message to attend, and on arrival at the farm I found the mare in a good deal of pain, straining hard, temp. 102.4, pulse 60, with very little appetite. On examination of the vagina, a large "tumour-like" swelling, bleeding freely from its surface, could easily be felt, and it was with some difficulty that I could distinguish the nature of the tumour and once very nearly decided to puncture with small trocar, but upon further examination I found that I had to deal with the bladder. The length of time that the organ had been displaced caused the walls to become considerably thickened and granulating

on the exposed surface.

After I had disinfected the parts I attempted reduction by pressure applied by both hands being placed round the organ, thus (). After half-an-hour I had reduced the mass by about half the size, and started mare and the cramp which had become very evident in my hands was unable to do so, and I decided that the mare must go under CHCl 3 to be successful, and that I should require some help to replace the organ after it had been reduced in size. There was fortunately a 'phone close by, and I enlisted the services of a brother practitioner in Sheffield, who at once came out.

The mare was cast, and went under the anæsthetic easily. After the seat of operation had been again disinfected, the organ was reduced by pressure of both hands as before, and replacement was commenced at the neck of the bladder. The fundus was replaced with great difficulty owing to its still swollen condition, chiefly by the aid of a mechanical pessary in the shape of a balling stick well protected at the end with cotton wool.

A medicinal pessary of Salol was inserted into the bladder, and the mare was allowed to rise, when straining was again very marked, and we decided to again insert the mechanical pessary and by sutures in the vulva retain it in position. The mare received doses of sedative medicine (Morph. hydrochlor.), and the prognosis of both my colleague and myself was very unfavourable.

On the next day the mare seemed fairly comfortable, had eaten a little soft food and was taking notice of her foal: pulse and temperature slightly lower. The balling stick was removed, a salol pessary inserted into the bladder, into which I could easily get three fingers. A course of saline febrifuges was carried out for a few days and the mare steadily improved, although there persisted for some time a purulent discharge from the vagina which gradually continued to be less in volume, and the mare went to work in a month from foaling.

Remarks.—The length of time the bladder was in-

Remarks.—The length of time the bladder was inverted (six days) the condition of surface of the organ—bleeding and granulating, the length of time it took to reduce and return the organ (5½ hours), make this case interesting. I have only seen one other inverted bladder, when reduction was quite simple compared to this one.

Coccidiosis in the horse.

Subject. A hunter bred four-years-old colt was reported in the early part of April 1914 to be "doing badly"; teeth and worms were suggested by the owner as the cause. However, on examination teeth were eliminated from the problem, and I decided to treat for worms, and gave tonics also. This line of treatment with variations was carried on for a month. The colt in the meantime had lost flesh rapidly, and had occasionally purged badly.

ally purged badly.

On May 16th I decided to test for tuberculosis but got a negative reaction. On May 30th I applied the mallein test with a negative result also.

As the colt had become very emaciated and looked the picture of misery, the owner consented to have him slaughtered.

The post-mortem revealed the mucous-membrane of small intestines thickened and somewhat of the appearance of what one gets in Johne's disease in cattle. The mesenteric glands were enlarged and congested; all other organs were healthy. I submitted a 'portion of the intestine to Mr. H. R. Lewis of City Veterinary Department, and he found present on and in the mucous membrane large numbers of a coccidian parasite, which had caused the disease from which the animal had suffered.

The parasite is circular in shape and measures only 3mm. in diameter, it renetrates the epithelial cells, which become detached and finally destroyed. There is a shedding of the dead portions and this gives rise to the roughened appearance of the mucous surface of the bowel.

This disease is, I believe, very rare in horses in this country; at least very few if any cases have been recorded.

TETANUS AFTER CASTRATION.

Subject. Yearling colt, grazing on a poultry farm, was castrated by me with écraseur on May 17th last. The colt was cast with ropes, the scrotum well swabbed with Hyd. perchlor. in spirit. There was practically no hemorrhage during and after operation.

On May 29th the colt was reported to be very stiff, and on visiting I found that there were unmistakable signs of tetanus, so as there was no convenience to have the animal properly nursed, and only a shed to run in, I decided to leave the animal in the open. The jaws could be opened about 1½ inches, and I managed to give a 5-dram physic ball which acted well in 24 hours. The cold received ½ dram doses of Ext. bellad, twice daily in sloppy mash, which he managed to swallow fairly well. After the fourth day improvement was noticed, with complete recovery in about 10-12 days.

EVERSION OF UTERUS IN MARE.

A four-year-old cart mare was found at 7 a.m. to have cast her foal two months before due time. The owner thought the mass which was hanging from the mare's vagina was cleansing, but at 2 pm. the same day a neighbour's advice was sought, with the result that a message was received at my yard to attend at once, but as I was out in another direction I was unable to get to the farm until 8 p.m. I found the mare in a most pitiable condition; she had become almost exhausted, the uterus was covered with fæces and slush off the stable floor; everything was in the worst sanitary condition it would be possible to conceive. However, I decided to attempt replacement, and after the organ had been well washed with pretty hot water, and disinfected, I got the uterus in a clean sheet and applied pressure to the outside, and by so doing reduced the bulk of the organ by one-half. I next replaced the organ, commencing at the neck and pushing the horn of the uterus back into its normal position by the aid of a pint bottle. An Ac. boric and Iodof. pessary was left in the uterus, and the vulva sutured up.

There was very little straining after the operation, and beyond receiving ordinary treatment the mare was very little further trouble, and made a complete recovery in three weeks.

Remark. How often do we condemn an animal to receive a bullet when if nature were put on the right course she would help us to bring about a recovery? When one come across cases of the above type, does it not appeal to us that we may be at times too hasty in ordering slaughter? which I very nearly did before trying what I could do in this case.

Mr. Somerset first dealt with the case seen in Mr. Sampson's yard that afternoon, and said he had seen a similar case to the mare with a stiff neck, in the hands of a horse dealer. The animal was stiff in front, and had difficulty in getting its head to the ground. The back was roached and the animal was emaciated. Tuberculosis was suggested. The animal, however, was sold and lost sight of

lost sight of.

Mr. Hudson stated that he had seen cases of stiff neck in tuberculosis and strongylosis. He had met with a strongyle in the scrotum.

Mr. Marrison thought the stiff neck might possibly be due to encysted worms in the muscles.

The President said he thought that inversion of the bladder was not common in mare. He had seen occasionally cases in cows.

Referring to the open-air treatment of tetanus, he quoted a case of a colt recently castrated by a castrator. The cord hung out, and ten days after the operation signs of tetanus were manifest. The colt was taken out of his box and put into a field to take his chance. He was much improved and appeared likely to recover.

Mr. Robinson quoted a case of tetanus where the patient had to be lifted from ten to twelve days, and

finally recovered.

Mr. Hudson mentioned a case of dystokia and inversion of the bladder with urine squirting from the ureters. He could not return it, so delivered the foal first, and after embryotomy the foal was got away, this being followed by eversion of the uterus, and the mare had to be killed. The post-mortem showed that the everted bladder was full of the small intestine.

He had not seen coccidiosis in the horse, but had a bad outbreak in Jersey cattle grazing on low lying land, the

case being confirmed by Sir John M'Fadyean.

He had tried the open-air treatment in a case of tetanus in a foal, but was not successful. In his experience acute cases of tetanus were usually fatal. In sub-acute cases he was fairly successful in treatment, and quoted a case where the animal while suffering was actually working in the plough. He found a dose of physic the best treatment, followed by one drachm doses of calomel night and morning. Recovery took place in three weeks' time.

Mr. Somerset stated that some years ago he attended two singular cases of tetanus. One was due to a chafed tail by a string from the rug. The animal recovered. The second case, in a hunter, also recovered by voluntary

treatment.

In visiting the latter case he drove a horse which, upon arrival at the place of treatment, was also found to be affected with tetanus. He treated with bran mashes and boiled carrots. These caused indigestion and tympany. The animal was tapped and eventually recovered.

Mr. Collinson had met with a few cases of inversion of the bladder and had successfully reduced all of them. He had recently had four cases of tetanus, all in a short

A foal infected through the umbilicus. It was not treated but turned out with the mare, and recovered. A foal two months old, treated by injection of cam-

phorated ether into jugular vein. The foal died. A Shire mare lately stinted, received intravenously 5 c.c. of camphorated ether and 50 c.c. of camphorated oil hypodermically. After treatment the animal fell over, but got up again a little later with assistance. It was now recovering and showed nothing wrong except for a swelling of the shoulder on the one side, which he thought was due to the injection of the camphorated

An unbroken three-year-old, suffering from a stab in the foot. He injected one dose of camphorated ether intravenously and one dose of camphorated oil hypodermically. Slinging had also been successful in his hands combined with antitetanic serum.

Mr. Hudson mentioned a case of tetanus in a pony, treated with rectal injection of Chloral hydrate. The

next morning the animal appeared quite well.

Mr. Somerset said he had seen a similar case in a pit pony which recovered in two days. He did not think this was a true case of tetanus, but had been brought on by fright.

Mr. MURGATROYD had met with a case in an animal which had been doped for sale. This also made a quick

recovery.
Capt. Oxspring stated that he had considerable experience of tetanus, and had turned the patients aside, but in no case of acute tetanus had recovery taken place. He thought anti-tetanic serum had been a successful preventive in his hands. He also had seen cases similar to tetanus due to fright. Recovery usually took place in a few days.

Capt. Oxspring also mentioned cases of coccidiosis which he had seen in calves in the West of England. Cases were there known as "bloody flux," it being accompanied by proliferation of the epithelium of the during the first year. This experience is similar to what

bowels and also disease in the liver. Mr. Sampson said in his case he saw purgation, but no blood or spots on the liver. The surface of the bowels was markedly corrugated.

Mr. Somerset proposed a very hearty vote of thanks to Mr. Sampson for his paper, for providing subjects for the operations and clinical diagnosis, and for his

hospitality.

Mr. LLOYD seconded the vote of thanks, which was

carried, and Mr. Sampson replied.

Interesting cases were also brought forward by some of the members. Mr. Thompson showed a specimen taken from a mare which had stoppage of the bowels for three days, gradually got worse and died. A post-mortem examination showed a lipoma on the surface of the small bowel and hernia through the mysentery. The tumour was covered by a band of omentum which strangulated the bowel, with the usual thickening, hæmorrhage, etc.

Mr. Sampson showed the small intestine of a dog obstructed by cysts on the outside of the bowel. He considered that pressure paralysed the circular muscle

fibres of the bowel and nothing was passed.

A vote of thanks to the President ended a pleasant and interesting meeting.

J. S. LLOYD, Hon. Sec.

BRITISH EAST AFRICA, ANNUAL REPORT OF THE VETERINARY DEPARTMENT, FOR THE ENDING 31ST MARCH, 1916. [Abridged.]

The following constituted the staff of the Veterinary Department during the year 1915-16:-

Chief V.O., R. J. Stordy. Dpty. C. V.O., W. Kennedy. Veterinary Pathologist, R. E. Montgomery. Veterinary Officers, R. Edmondson, A. G. Doherty, H. H. Brassey-Edwards, F. J. McCall, O. Dixon, R. C. Wheeler, W. W. Henderson, G. N. Hall, F. J. S. Sheedy, A. W. Carter, T. C. Bradshaw, M. H. Reid. Assistant Veterinary Pathologist, W. Kerney. A Permit Officer: two Clerks; four Livestock Inspectors.

Four Indian Vety. Assistants, Ghulam Hassan Shah, Karam Ellahie, Khalilur Rahman Khan, Mohamed Ramzan.

I.V.A. Karam Ellahie left the service on Nov. 27, 1915, in order to take up a post as Assistant Professor in the Veterinary College, Lahore, India.

East Coast Fever-Progress of Dipping.

As a result of the heavy mortality recorded amongst cattle, drawn from native reserves, collected at various military supply centres, it is evident that in the so-called infected reserves there must be large areas where the disease is non-existent. This only emphasizes the necessity for erecting dipping tanks in these reserves, to check the spread of the disease, and to safeguard the clean herds.

During the year Government tanks have been completed at Nairobi, and at Rumuruti, and a tank has been erected by the Military Authorities at Fort Ternan. Several private dipping tanks have also been erected, and some 80 are now in use in the Protectorate.

It has been noticed on several farms where "redlegged" ticks are prevalent, that those situated inside the ears frequently survive an immersion in the dipping fluid, and the attention of stock owners is drawn to the necessity for frequently dressing the inside of the ears of cattle infested with these ticks with a mixture of lard and Stockholm tar, in order to get rid of them.

When dipping operations are commenced on heavily

has been found to occur in Rhodesia, and differs from

that of stock owners in South Africa.

The following extract from the Government Analyst's report is of considerable interest:—During the year 1915, the number of samples of cattle dip analysed and reported upon was 650, against 480 in 1914. The results show no improvement upon those of the previous year as will be seen from the following table:-

		Percentage	of samples
Percentage error.		1914.	1915.
0—10		61.4	54.5
11—20		20.6	25.7
21-30		9.2	10.3
31—40		4.0	3.8
41—50		1.2	2.6
Greater than 50		33	3.1
Sufficiently correct		61.4	54.5
Dangerously incorre	ct	18.0	19.8

It was anticipated that, with more experience, the dip owners would improve upon their record of 1914 in the matter of maintaining their dips approximately correct, but it is apparent from the above comparison that in reality there has been a slight falling off in the skill displayed. Probably the fact that many of the settlers have left their farms in order to do Military service is quite sufficient explanation and, from this point of view, it is satisfactory that the results are so near to those of the previous year.

It has been left to the discretion of the owner, how frequently he shall have an analysis made, so that it has happened that whereas some owners have only once or or twice submitted samples for analysis, others have

sent in up to 32 samples in the year.

It sufficiently appears from the preceding classifica-tion of samples that considerable improvement should be made in the direction of maintaining dips in a state of efficiency. It is very obvious that the owners are frequently working in the dark as to the capacity of the dip and hence cannot make necessary corrections when they have been informed of their error. The consequence of this is that they immediately send a fresh sample in order to ascertain how far their attempt at correction has succeeded.

The analysis of arsenical dips costs time and money, and this method of obtaining analysis after every correction, instead of relying upon exact calculations of volume of the dip and accurate measurement of the material added, is taking a grossly unfair advantage of the privilege of free analysis which has so far been afforded the dip owners. It has been conclusively proved that this method of correction by trial, instead of by calculation, is not only expensive to the State, but is also unsuccessful.

Steps are being taken to encourage the dip owner to acquire an intimate knowledge of the capacity of his dip, and to take a lively interest in the accurate measurement of all intentional and accidental additions and subtractions, and to discourage him from attempting to place upon the State the burden of maintaining his dip efficient.

Attention in previous reports has been drawn to the changes in composition which dips undergo, particularly

to the processes of oxidation and reduction.

There appears to have been about 76 dips under observation during the year—the exact number is doubtful, as samples from the same dip are sometimes sent over different signatures and the tracing of these is difficult—and in 47 of these the oxidation has not been very great, the quantity of arsenate formed not having at any time exceeded 25 per cent. of the amount of arsenite present. In 18 dips the arsenate reached a maximum exceeding 25 per cent., but not exceeding 50 per cent. of the arsenite, and in all dips a maximum of arsenate exceeding 50 per cent. was reached. In one pest: the injection in many cases appeared to take place

case oxidation proceeded so far that there was actually at one period over 2½ times as much arsenate as arsenite present. The cycle of oxidation and reduction was in present. one case completed twice in the year, in two cases it took approximately nine months; several cases indicated a complete cycle in about 12 months, while in many cases the course of the changes was irregular, and the oxidation did not steadly proceed to a maximum followed by a continuous reduction.

It has occurred in many cases that a dip has been kept in use long after it has become filthy and thick with dung and mud. There are not lacking indications that these dirty dips are inefficient, even when the analysis indicates a satisfactory arsenic content. It is highly probable that compounds of iron with arsenic are formed which have practically no toxic properties. Perhaps further experience will enable a more definite statement to be made as to the amount of mud, etc.,

which may be tolerated.

Several cases of error in sampling have occurredtins which have been used for measuring out Cooper's dipping fluid have been immediately afterwards used to take a sample from the dip; bottles with a quantity of rinsing water left in have been filled up with the sample, Cases have occurred where the results of analysis have given great surprise to the dip owners, and explanations have been demanded of the analyst. In these cases the usual sources of error in sampling have been pointed out, and the owner has sometimes recognised one or other as the probable explanation; in other cases no explanation has been forthcoming excepting that some serious miscalculation has been made in making up the dip.

Rinderpest. Outbreaks of this disease occurred during the year in eleven settled areas. In suppressing these outbreaks the double inoculation method was used at Molo, Nairobi, Thika and Machakos. The other outbreaks were dealt with by the inoculation of serum only. The mortality from double inoculation has proved to be as small as in previous years and there is no doubt that this is the best method for dealing with the disease in this country, owing to the constant danger of the disease being reintroduced from infected native reserves, or through the migration of infected wild game.

In September, 1915, the Veterinary l'athologist re-ported that instances had come under his notice which went to prove that the double inoculation of calves under six months old did not always result in the production of a permanent immunity to rinderpest. A circular letter was therefore issued to all Veterinary Officers informing them that calves which are double inoculated for rinderpest when under the age of six months should not be considered immune and consequently should not be branded AM (this brand signifying active immunity). At a later period when such calves are over six months old they should be again double inoculated, and branded as immune.

At the Fort Ternan Quarantine Station 1367 military cattle and 2328 cattle, the property of settlers and traders, were double inoculated during the year.

The Laboratory issued the following quantities of serum during the year:—

To Military Authorities	East Africa	42,352
	Uganda	10,080
Veterinary Department,	E.A. Protect.	34,810
	Uganda	25,032
Settlers and Traders		3,500
Government of Nigeria		10,080
	Total	125,854

Anthrax. Several cases of this disease occurred at Fort Ternan Quarantine Station amongst cattle undergoing quarantine after double inoculation for Rinderat the site of inoculation and in some cases infected animals lived for 20 days after developing symptoms. There is strong evidence to show that animals may be infected with the bacillus of anthrax without ciinical symptoms of the disease being apparent, and it has been demonstrated, that while this bacillus may be innocuous, or at least non-fatal, to a number of indigenous animals, the same bacillus may prove highly fatal to others.

It is by this factor that we might assume anthrax is carried from animal to animal in the process of double inoculation for rinderpest. Many no doubt will miss infection, others though infected do not sicken, while others, again, contract anthrax and die. Cases of anthrax also occurred amongst transport cattle working on the Mumias-Kisumu Road, and in the Nairobi and Kiambu districts. As this disease is communicable to man and proves frequently fatal, animals intended for human consumption should be carefully inspected and temperatured before slaughter.

Pleuropneumonia. A few cases of pleuropneumonia came under notice among the stock confiscated from the Turkhana. The precautions taken prevented ani-

mals from being moved to the settled areas.

With regard to the quarantine area for this disease in in the Masai Reserve every possible precaution is being taken to prevent the spread of the disease from this area, but owing to the large purchases of slaughter-oxen which are being made from the Masai for military purposes the owners of the infected herds may be tempted to evade quarantine restrictions and sell infected ani-

mals to the military.

Contagious abortion of cattle. This disease has come under notice on a few farms in the Molo, Nairobi, Naivasha and Machakos Districts, but it is of such an insidious nature and usually pursues such a mild course in native cattle that it is highly probable that it will be found to be much more wide spread than is at present suspected. The disease spreads from farm to farm through infected cattle changing hands, and too often unscrupulous farmers conceal the fact that their herds are infected, to enable them to dispose of their stock. On the other hand, owing to the mild course it usually follows in native cattle, the disease may be present in a herd without the owner having suspected its existence.

It is probable that the disease in this country will be found to be a most serious one, should it appear in herds of grade cattle. It is therefore highly advisable that all cattle breeders should take every precaution to safeguard their herds against the disease. Rigorous preventive measures enable the disease to be effectually controlled only in herds that are well looked after, and experience in Europe and other countries goes to prove that for the present effective legislation cannot be

devised.

The most practical method of preventing the introduction of this disease on to a farm is to submit all newly purchased breeding animals to some months quarantine on an isolated portion of the farm before they are allowed to commingle with the animals of the

homestead.

Trypanosomiasis. An outbreak of trypanosomiasis occurred in June, 1915, amongst settlers' cattle in the Thika District. A veterinary survey was carried out over the whole district in July and August, when it was found that the disease was being largely disseminated through the agency of the common bloodsucking cattle fly (Stomoxys). The area implicated was placed in quarantine in September, 1915, and since then a veterinary officer has been permanently retained in the district, carrying out periodic examinations of all cattle; destroying all animals found to be affected with the disease. The measures to date have been instrumental in reducing the incidence of the disease, and there is reason

to believe that the disease will be eradicated along the transport routes in the near future, when it will be possible to allow freer movement of cattle in the district.

Foot-and-mouth disease. An outbreak of this disease occurred at the Laboratory amongst cattle imported from Uganda. Prompt action was taken to segregate the affected herd, and any danger of the disease spreading to the Native Reserve was prevented, through the kindness of the Officer Commanding the Nairobi Defence Force, who kindly supplied an armed guard to patrol the infected area.

This outbreak gave the Veterinary Pathologist an opportunity to satisfy himself in regard to the virulence of the Uganda form of this disease. It proved to be of a very benign type, and local stock possess a consider-

able resistance to it.

Quarter evil. Outbreaks of quarter evil have been reported in Nyeri, Lumbwa, Nakuru, and Kisumu Districts. A vaccine produced at the Laboratory has been used and has given good results.

Epizootic and Ulcerative Lymphangitis. It is gratifying to find that very few cases of epizootic lymphangitis were noted during the year, and there has been a great diminution in the number of cases of ulcerative lymphangitis also. This decrease is mainly due to the fact that practically all the equines in the country came under veterinary inspection during military commandeering operations, when most of the affected animals were either destroyed or sent to the Laboratory for treatment.

The organism of ulcerative lymphangitis is present in the soil throughout the Protectorate. No good cause could be served by keeping this disease on the schedule of notifiable diseases, and steps were taken to delete this disease from the Diseases of Animals Ordinance.

Horse sickness. This disease was the cause of considerable mortality among military remounts in the Nairobi, Mbagathi and Bissel Camps.

Few cases have been reported by farmers during the year, but this is probably not due to the disease being less prevalent than formerly, but because owing to the war fewer animals are to be found on the farms.

Strangles. Several consignments of remounts from South Africa arrived at Kilindini infected with strangles, the disease proving to be of an unusually virulent type. As great care is exercised to prevent any affected animals being sold at the sales of remounts there should be no risk of this disease appearing on farms.

Sheep and youts. The principal diseases of the sheep and goat which have come under our notice during the year in our military flocks have been Nairobi sheep disease, contagious foot-rot, verminous gastro-enteritis and contagious pleuro-pneumonia of the goat.

The permit system.

I take this opportunity of thanking the Honorary Permit Issuers for their co-operation and kind assist-

ance during the past year.

When compulsory dipping is instituted it will be possible to considerably modify the quarantine regulations. All movement of stock, so far as East Coast Fever is concerned will be regulated under dipping rules and the differentiation of clean and infected areas will no longer be necessary.

The farmer who neglects to dip his stock will be the only person to suffer, as he will be unable to move cattle

from his farm.

Meat Inspection.

The following are the Nairobi slaughter-house returns returns for the past financial year:—

	Slaughtered.	Condemned.
Bullocks	 4,749	106
Sheep and goats	 30,965	96
Pigs	 337	nil

For purposes of comparison the number of animals slaughtered during 1912-13, 1913-14 and this year were as follows:—

	Bullocks.	Sheep and goats.	Pigs.
1912-13	 1,057	30,482	nil
13-14	 1,567	35,957	102
14-15	 4,749	30,965	337

The large increase shown in the number of bullocks slaughtered is accounted for by the fact that a large number of slaughtered oxen for the military authorities were dealt with.

Trading. Through the Veterinary Station, Rumuruti, the following stock was inspected, inoculated or dipped and passed:—

Cattle	 8964
Sheep and goats	 7812
Horses	 80
Mules	 435
Donkeys	 94

The revenue accruing from inoculation fees throughout the Protectorate amounts to Rs. 20,908.

Branding of Stock. During the year ending March 31st, 1916, 35 new brands were registered.

General.

As the entire staff of the Veterinary Department is still carrying out military duties as the East Africa Veterinary Corps it has been often exceedingly difficult to cope with outbreaks of disease, but every endeavour has been made to do so promptly and effectively.

The military duties of the Veterinary Corps included the purchase of all livestock for meat supplies for the troops, and the purchase and control of all remounts. Owing to the large importations of military animals it however became essential to keep a large veterinary staff in the field with the troops, and to do this it was found necessary to hand over the control of the Livestock Department to the Supply Corps. This was done in November, 1915, and in February the control of the Remount Department was passed to Lt.-Col. Findlay, Deputy Director of Remounts.

This enabled the Veterinary Corps to devote its energies to work of a purely veterinary nature, and to the purchase and inoculation of military transport oxen.

In conclusion, I would take this opportunity of expressing my high appreciation of the excellent work carried out by the members of my staff.

(Sd.) ROBERT J. STORDY, Chief Veterinary Officer.

Nairobi, March 31, 1916.

Sir Stewart Stockman, of the Board of Agriculture and Fisheries, has contributed to the Journal of Comparative Pathology and Therapeutics an account of special investigations into the etiology and epizoology of 'louping-ill," with special reference to the "tick theory," which has been the subject of much discussion, but has never received general acceptance. The result of a close investigation of the fluids and tissues of sheep affected with louping-ill has been to furnish strong evidence against the idea of a protozoan organism, carried by ticks being the cause of the malady.—E.M.J.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

			Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.		
Period.		Out- breaks (a)	Ani- mals.	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- oreaka (b)	Ani- mals.	Sheep Scab.	Ont- breaks	Slaugh- tered.		
GT. BRITAIN.				1 (4)	_			1 (0)		1 (0)	-	. (0)-	- (ω)	
	ek end	led Sept	. 22	4	4			1	1	24	28	1	22	11
Corresponding	(1916		7	8			2	2	16	29	4	51	23
week in	1	1915		3	3				1	18	34	1	43	99
week in		1914	•••	10	12			1	1	4	_	l!	103	470
Total for 38 week	s, 1917			342	390			21	35	1946	3737	400	1777	773
G	1	1916		392	463	1	24	40	98	1747	3928	189	3476	8739
Corresponding period in	1915		436	497			38	68	623	1345	161	3136	13802	
	1914		548	600	22	108	79	232	1526	2638	155	3063	30470	

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Sept. 25, 1917

† Counties affected, animals attacked:—London 1

Excluding outbreaks in army horses.

IRELAND. Week ende	ed Sept. 22							Outbreaks 1	8		3
Corresponding Week in	1916 1915							.;	8 2	11 5	74 25
Corresponding week in	1914			:::		_:::_		2	3_	1	5
Total for 38 weeks, 1917		3	5			1	1	40	289	185	1079
	1916	3	7					54	309	245	1432
Corresponding period in	1915 1914	1	1	76	955	1	3	57 67	507 400	191 161	1092 841

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 24, 1917.

Note.—The figures for the Current Year are approximate only.

*As diseased or Exposed to Infection

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

D. C. Cookenton Tondon E	01	1	0
B. S. Cockerton, London, E.	£1	1	U
D. A. Gillmor, Capt. A.v.c. (1916, 1917)	2	2	0
J. J. O'Gorman, Capt. c.a.v.c.	1	1	0
W. Cecil Lowe, LtCol. A.V.C.	1	1	0
C. S. Northcott, Lieut. A.v.c.	1	1	0
J. W. Pollock, Lockerbie	1	1	0
W. R. Watson, Thornby	1	1	0
H. H. Worrow, Shadwell, E.	1	1	0
Previously acknowledged	873	19	0
	£883	8	0

Sterilised Meat.

At the annual congress of the Incorporated Sanitary Association of Scotland, held recently at Glasgow, Mr. A. M. Trotter, Chief Veterinary Surgeon to the Corporation of Glasgow, read a paper on the sterilisation of tuberculous meat, in which he stated emphatically that sterilised meat could not produce disease in the consumer. In support of this view he quoted a letter from Prof. Banks, the well-known authority on tuberculosis, who wrote: "I am of opinion that there does not exist any reason to believe that it would be dangerous to use for human food a tuberculous carcase of good quality in

sterilised condition.

Mr. Trotter said that in Glasgow at least 300 tons'could be conserved annually by sterilisation, and this would provide sufficient meat for 2,000,000 meals. He expressed the opinion that the meat ought to be sold only in premises set apart for the purpose, and its selection, preparation, sterilisation, and distribution supervised and controlled by officials of the local authorities. Owing to the difficulties involved, he declined to decide whether full responsibility for sale should be taken by the local authority or by members of the trade. The local authority or by members of the trade. authority of the burgh of Hamilton had assumed the responsibility. In Aberdeen the equipment, working, and distribution through special premises had been handed over to the incorporation of fleshers, but the selection of the meat as well as the supervision would remain in the hands of the meat inspection staff. The Aberdeen authorities had certainly rid themselves of much financial responsibility, and incidentally of probable and possible recriminations.

A description was given of meat sterilisation experi-ments carried out by Mr. Trotter. The apparatus employed was a cylinder $4\frac{1}{2}$ feet long and $1\frac{1}{2}$ feet diameter; the under third being double walled. Steam might be admitted either into the cylinder or into the double-walled compartment. In the interior of the cylinder was a movable tray, with a receptacle underneath to collect the juices as they dripped from the meat during process of cooking. A pressure gauge and a thermometer were attached so that the pressure and temperature could at all times be ascertained. After the meat was placed on the tray the apparatus was hermetically The steam was then admitted to the doublewalled compartment with the view of facilitating the creation of a vacuum, which was secured by means of an exhaust pump. When the required vacuum had been obtained, the steam was admitted into the cylinder, and came into direct contact with the meat. Into the tact thermometer attached by wires to a battery and electric bell. When the temperature in the centre of the largest piece of meat was inserted a contact thermometer attached by wires to a battery and we won't have it." (Lughter). He claimed that he electric bell. When the temperature in the centre of the selected piece had been raised to the desired degree a contact was formed and the bell rung. After the bell had rung, steam was maintained for 15 minutes to would kill bacilli.

ensure the process of sterilisation was complete. contact temperature was in every instance 195° F. i.e., the ascertained thermal death point of the bacilli tuberculosis, but as the temperature would be steadily rising during the 15 minutes of prolonged steaming after the ringing of the contact bell, it could with all safety be asserted that all tubercle bacilli which might be either on or in the meat would have been killed.

In the actual experiments several pieces up to 10lb. in weight were tested. Two samples were trimmed in the usual manner required by the Corporation, and after sterilisation were reported by the analyst to have "proved quite sterile by the ordinary tests," and to have given "rise to no tubercular or other morbid reaction on inoculation." The third sample, consisting of three pieces each about 7 lb. in weight, from the thick portion of the foreleg of a second grade cow-carcase, was untrimmed, so as to test severely the efficiency of the process. As to it the analyst reported: - "Sample C showing tubercles on pleura over portions of three ribs also gave negative results when tested in the same manner by culture and inoculation."

In the paper Mr. Trotter referred to the wide diversity

in methods of meat inspection, and the need for a uniform system. The Royal Commission on Tuberculosis, which dealt with this subject in 1896, called for the issue of recommendations which would make for uniformity, and such recommendations have been issued. In his experience they had not had much result. The main point, however, was the great waste of food caused by this diversity in methods of inspection. He pointed out that ordinary culinary methods cannot be relied upon to render harmless tubercle bacilli in the interior

of a joint.

In the course of the discussion on the paper a letter was read from Prof. Sims Woodhead, Cambridge University, who wrote that sterilisation at a proper temperature made tuberculous meat innocuous and nutritious.

Prof. Matthew Hay, Aberdeen, wrote that he publicly expressed his concurrence with the views that Mr. Trotter put forward in his paper. In Aberdeen they believed that if meat were selected by their own staff and sterilised under their supervision to kill any tubercle germs, there would be no danger whatever to the consumers, and a considerable quantity of available food would be saved. Our success in the war might ultimately depend on the efficiency of our food supply. The almost universal practice in the country was that not more than half of the carcases exhibiting evidence of tuberculosis were wholly condemned. Of the remaining half only parts were destroyed. The rest of the carcase was passed undesignated and unsterilised. Sterilisation would tend to secure that our meat supply would be placed on a safer and more scientific basis. special shop would be necessary for the sale of sterilised meat. It was only right that every purchaser should know what he was purchasing, and that dealers should not be tempted for the sake of higher profit to sell such meat as ordinary meat. It ought not to be sold in eating houses except on condition that it was the only kind of meat used, and a notice to that effect was conspicuously exhibited

Mr. Roderick Scott, convener of Glasgow Public Health Committee, held that no process that he knew of could make diseased beef sound. They might by the treatment suggested make it innocuous, but if it were incinerated it would be much more innocuous. (Laughter). What did the Jews do? Everything that was diseased

culosis.

Prof. Glaister supported the view that sterilisation

Tuberculin in Cancer.

At a meeting of the Swedish Förening for the Invartes medicin, Dr. I. Holmgren gave an account of his experi-ments with tuberculin in several cases of cancer. While he was medical superintendent of the St. Goran Hospital he had occasion to make necropsies on between three and four thousand tuberculous subjects, and was struck by the complete absence of malignant growths. It was therefore possible, he thought, that the tuberculous toxins might possess an inhibitive action on the growth of cancer cells. He found that the subjects of cancer were astonishingly tolerant of tuberculin, and, after he had experimented some time with comparatively small doses, he realised that much larger doses could be tolerated without any reaction. Indeed, in some cases he gave 100 mg. subcutaneously at the first injection. Of the fifty-two patients thus treated the majority did not react at all. There was no rise of temperature or general symptoms, and in 88 per cent. there was no rise of temperature above 38° C. (100.4 F.). In the few cases in which a febrile reaction occurred it lasted only a few hours. Dr. Holmgren came to regard tolerance for tuberculin as such a characteristic feature of cancer that he employed it in the differential diagnosis between cancer of the stomach and simple, chronic, gastric ulcer.—B. M. J.

ARMY VETERINARY SERVICE

Extracts from London Gazette,
WAR OFFICE, WHITEHALL, Sept. 26.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lieuts. to be temp. Capts. :—H. W. Stevens, W. Cawthorn (Sept. 1).

TERRITORIAL FORCE, ARMY VETERINARY CORPS. Sept. 26.

Capt. J. A. Craft relinquishes his commn. on account of ill-health, and is granted the hon. rank of Capt. (Sept. 27).

The same old story.

When Julius Cæsar went to town
To purchase steaks and chops and such,
He tried to beat the butchers down,
And swore that prices were too much.
"Two cents a pound for steak!" he roared.
"Why, man, that's nothing short of crime!
You butchers are a greedy horde,
"It cost but one in Noah's time.

When Ollie Cromwell went to shop,
For beef and mutton and the like,
He said if prices didn't drop
He'd spit the butchers on a spike.
"Six cents a pound for steak!" he said.
"It's more than honest men can pay,
You folks are robbers on the dead;
It cost but two in Cæsar's day!"

To-day when we go out and find
That beef is thirty cents a pound,
We tarry there and speak our mind,
And scatter savage words around.
"Twas ever thus, in every age,
In every time and clime and season;
The price of meat has made men rage,
And always with abundant reason.

—James Montague, in the New York American (ex Meat Trades' Journal).

Veterinary Societies-Addresses.

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Pres: Mr. H. Barrow, M.R.C.V.S., Ireby, Carlisle

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Meetings, Second Friday of Feb., June, and October

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10 Red Lion Square, London, W.C. 1.

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VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1526.

OCTOBER 6, 1917.

VOL. XXX.

POLYVALENT SERUM.

The use of stock polyvalent vaccines and sera for any such disease as joint-ill always has obvious drawbacks. Considerable skill and knowledge, and access to a large variety of pathological material, are essentials for the production of such preparations. Given all these, a polyvalent vaccine or serum may answer well for the majority of cases; but it is not likely to do so for all. Probably no stock polyvalent vaccine or serum will ever be an ideal preparation in practice; but it is quite certain that some are useful already, and continued efforts to improve their production may make them much For these reasons, Mr. Scott's report of more so. the results of one polyvalent serum for joint-ill is valuable. It shows some successes along with, as might be expected, some failures; and the net result seems to indicate that the serum is well worth trying in any case not too far advanced. It also contains one remark upon prognosis which may prove to be a valuable guide in practice, and some suggestions for improving the serum that may be even more valuable. Treatment by polyvalent sera is a method still comparatively undeveloped. Its future possibilities are high; and they can only be fully developed by such co-operation between clinicians and the laboratory as is evidenced in this article.

ŒSTRUS LARVÆ IN THE PHARYNX.

Most practitioners have heard of the development of Œstrus larvæ in the equine pharynx; but probably few have regarded the occurrence as other than rare. Major G. T. Cannon's account of fifteen cases in horses of South African origin, which we published three weeks ago will have been suggestive to many. He remarks upon the probability of similar cases having occurred in the Army without their true cause being recognised; and this is equally applicable to civil practice.

In some parts of the world this localisation of of cestrus larvæ seems to be not uncommon-empirics in Russia, for instance, are said to be acquainted with it and treat it by detaching the larvæ with a brush. Neumann states that the larvæ concerned in these cases are "more especially if not those of the Gastrophilus hæmorexclusively " rhoidalis. In Major Cannon's cases the larvæ were those of the G. pecorum, a species presenting many resemblances to the better known G. hamorrhoidalis. Both species exist throughout Europe; and it is possible that their lodgment in the pharynx and cosophagus may be more frequent than is usually the navel I failed to detect any streptococci, although supposed. Any careful reader of Major Cannon's staphylococci were found in abundance. This, I account will recognise that it would be easy to treat think, is a significant point. such a case without suspecting its true cause; and

doing so.

A PRELIMINARY NOTE ON THE TREATMENT OF PYEMIC ARTHRITIS—JOINT-EVIL—IN FOALS WITH POLYVALENT ANTISTREPTOCCAL SERUM.

By WILLIAM SCOTT, F.R.C.V.S., Bridgwater.

Early in the spring of this year Messrs. Park, Davis & Co., offered to place at my disposal an unlimited supply of their antistreptococcal serum for the experimental treatment of Joint-evil in foals. I willingly acquiesced—for a two-fold reason: (1) Joint-evil is the bête noir of foal life, and chemotherapy has, up to now, given practitioners poor results. (2) Whatever the laboratory data may be on any new line of treatment, the ultimate judgement of its merits or demerits must rest with, and come from the "clinical field."

Each case treated gave a true clinical picture of the disease, and in no case was there any collateral therapeutical line of treatment adopted. I mention this so that whatever conclusions are arrived at they may remain as unhampered as possible. The cases here recorded are divided into curative and prophylactic.

CURATIVE CASES.

Case I. A cart foal, six days old, was noticed the day previous to be going lame on the near hind leg and the stifle of the same leg was swollen and tender. The patient was slightly tucked up, but was sucking well, and the temperature was 104.1°F. There was a slight discharge from the navel, stained smears from the pus showing streptococci and staphylococci. The foal was cast, the navel stump squeezed and deeply painted with Tinct. iod. and 5 c.c. of serum injected into the lumen of the cord, which was then tied to prevent escape of the injecto. Ten c.c. were also injected sub cutis into the cervical region.

2nd day. Lameness was no worse, but there was a pronounced dragging of the hind quarters, this condition being accounted for by the opposite stifle becoming involved. Twelve c.c. serum injected sub cutis and 5 c.c. intra navel. The discharge from the navel was less in quantity and changed in consistence and appearence, looking more like curd. Smears revealed many staphylococci, few streptococci.

3rd day. Although the stifle joints were as much swollen the dragging lameness was much less. The sub cutis (15 c.c.) and intra-navel injection as on the previous day were carried out. In smears from

4th day. Patient would run after his mother perhaps the account will save some men from voluntarily without showing much lameness, and the joints were also receding. Serum injected

(20 c.c.) as previously.

5th day. The lameness had nearly disappeared, but there was still slight navel discharge: serum injections repeated.

7th day. I considered the case so far convalescent that no further treatment was necessary.

Case II. A cart foal, three days old, lame on the near fore leg. The owner, as is very usual, considered the mother had trodden on it. Tenderness over the knee noted but no swelling was visible. There was no discharge from the navel. The temperature was 105° F., to my surprise, for the foal seemed very well. The patient was cast, the shrivelled stump of the navel forcibly torn off, exposing a bleeding stump and the vessel lumen. Injected 2 c.c. of serum and ligatured the cord after sterilizing with Tinct. iod.: 5 c.c. serum was also given sub cutis.

2nd day. Knee was swollen, and lameness about the same—if anything a little more pronounced.

Injected 10 c.c. serum sub cutis.

3rd day. In addition the elbow swollen, but the knee had gone down. Injected 15 c.c. serum.

4th day. Condition about the same. Injected 15 c.c. serum.

6th day. Lameness and swelling nearly gone. Injected 20 c.c. Recovery complete.

Case III. A thoroughbred foal, five days old. On the third day the owner noticed urine coming from the navel, and doubtless it had been doing so from birth but had escaped detection. The back was arched, and he was going stiffly "all round" When seen by me (fifth day) marked effusion had taken place into the capsular cavities of both stifles but there was no great tenderness: temperature 104·2° F. Injected 10 c.c. serum sub cutis and 2 c.c. intra-navel. Smears from navel pus showed both streptococcus and staphylococcus.

2nd day. Off elbow became involved and the foal had a difficulty in getting up. Injected 12 c.c.

serum sub cutis and 5 c.c. intra-navel.

3rd day. The patient could scarcely move and could not get up without help. Repeated the injections increasing the dose to 15 c.c. Smears of navel pus gave abundance of staphylococci, but very few streptococci, and oddly enough the chains were very short compared with those examined in the first smears.

4th day. Foal much worse and unable to stand. No further treatment—died the same evening.

Case IV. A foal out of a half-bred mare by a Shire stallion. I saw this case 12 hours after birth, the foal suffering from extensive double scrotal hernia. I advised watching and leaving severely alone for a week or ten days, after which, if the rupture was still in evidence, we should operate. On the sixth day I was telegraphed for again—"Foal injured elbow." I found the patient with discharge from the navel, and the elbow joint typical of pyæmic arthritis. The hernia had almost disappeared. Temperature 103·4°F. Injected 10 c.c. serum sub cutis and 5 c.c. intra navel.

2nd day. A probable improvement of lameness should be recorded, but upon this it was difficult to judge definitely, for the knee of the opposite leg had become involved, and the symptoms of lameness thereby equalised. Injected 15 c.c. serum sub cutis and 5 c.c. intra-navel.

3rd day. Joints still swollen but patient moves more freely. Repeated the injections: 20 c.c. sub

cutis.

5th day. Much improved; repeated injections. 7th day. Lameness almost gone and swellings receding. Recovery good. Smears from navel pus showed streptococci in pure state. After the third injection no more pus came away.

Cases I to IV. Daily temperatures, Fahrenheit:-6th 2nd 3rd 4th 5th 7th 102.6 102.4 102.8 102 104.2 103.4 103 104.2 103.6 103 101.9 105 103.6 104.4 104 104.5 103.5 1037 105.8 102.4 101.6 101.7

Case V. A blood foal, somewhat weakly at birth. Difficulty was experienced in getting it to take the teat, and as is usual in many of these cases, gastro-intestinal troubles followed, with consequent depression, weakness, and an increased susceptibility to fall the victim of bacterial aggression combined with a thwarted response on the part of nature to shake this off.

The foal was nine days old when first seen, while the classical symptoms of joint-evil had been patent to the owner three days previously. Both hocks and the off knee were involved, and pus was oozing from the navel: temperature 104.4°F., and the patient was very thin. Smears and cultures obtained from the navel gave streptococci, staphylococci, and Bac. coli. It may be of interest to note here the serum injected into navel seemed to exercise a specific action on the streptococci, judging from subsequent examinations of the pus, but the two latter bacteria appeared to flourish. Fifteen c.c. serum was injected sub cutis, and 5 c.c. intra-navel.

2nd day. Foal no worse, and 20 c.c. serum was

given.

3rd day. Near stifle became invaded and the other affected joints more swollen, and certainly more tender. He had great difficulty in getting up. 20 c.c. serum injected.

4th day. Patient much worse; respiration greatly hurried, crepitus detected on the lower third of each

lung. Heart's action laboured.

5th day. Condition critical, and the patient was ordered to be destroyed.

Case VI. A blood foal, the mother a primapara. Foal born at 2 a.m., did not stand for two hours: 38 hours later was seen by the owner going lame and carrying the near fore leg. Sixteen hours later I saw the case, the shoulder was swollen and very tender, but by reason of the diffused nature of the swelling was not diagnostic of joint-evil. The navel was shrivelled and appeared quite healthy: temperature 103·1° F. To be on the safe side, I gave 10 c.c serum.

On the afternoon of the following day the near knee and the near hock-looking like a bog-spavinwas swollen, simplifying one's diagnosis. The foal now had to be assisted to rise: temperature 104° F. Prognosis unfavourable. He died some time during

the night.

Case VII. A hackney foal. Shortly after birth showed symptoms of perforate urachus, and I prescribed an ointment of Hyd. iod. Cl. cum Ac. boric, without seeing the case. The following day he was noticed not sucking and standing under the hedge, back arched, and dragging hind legs; groans and cringes when pressed over the loins; no swelling in the joints: temperature 104.4° F. Injected 10 c.c. serum, and 2 c.c. into the navel.

2nd day. The near knee was slightly swollen and very painful to the touch: temp. 105.1° F. Injected 12 c.c. serum.

3rd day. Knee much more swollen; unable to stand; temp. 104° F. As the case was looked upon as hopeless it was ordered to be destroyed.

PROPHYLACTIC CASES.

It is much easier for the immunizer to formulate an opinion upon the efficacy or otherwise of any new line of curative treatment than upon prophylactic treatment; for the obvious reason that in the case of the former, given a sufficiency of cases one has definite data to go upon, whereas in the latter data tends to merge into hypothesis.

Case I. Foal, two days old. Injected 2 c.c. intra-navel, and 5 c.c sub cutis. Ten days later injected double quantum of each. Did not develope

joint-evil.

Case II. Foal, seven days old. Injected 5 c.c. intra-navel, 10 c.c. sub cutis. Seven days later injected double quantum of each. Did not develope joint-evil.

Case III. Foal, 12 hours old, from a susceptible family. Injected 1 c.c. intra-navel, and 6 c.c. sub cutis. Ten days later injected double quantum of each. Did not develope joint-evil.

Description of the Serum used

The producers of the serum write: "Antistreptococcus serum, polyvalent, is prepared by immunising horses with killed cultures of streptococci obtained from numerous sources.*
1. For curative purposes." If the foal is under

eight days 5 c.c. is considered a suitable dose; if

over, 10 c.c.†

2. For prophylactic purposes; "Where the disease is prevalent it is desirable to give 5 to 10 c.c. as an immunising dose on the 8th and 15th days. This, with the proper care of the umbilious by dressings will effectually prevent the trouble.§

* A higher degree of immunity, and consequently a serum richer in immune bodies, could be obtained by injecting cultures, beginning with those containing killed bacteria i.e. (a) sterile bacterial emulsion; (b) attenuated emulsion; (c) virule at emulsion.

+ I consider double these doses may be given, not only

with safety but with advantage.

† Why wait for eight days before injecting the immunising serum? Surely every practical consideration calls out for an earlier immunisation.

Observations.

A careful study of the temperature charts shows that in those cases which made good recoveries, i.e., I., II., IV., a steady fall in the temperature was noticeable, and that this fall coincided with the exhibition of the serum. So pronounced was this that one feels almost justified in claiming for the serum a thermic specificity. To still strengthen this supposition we have cases III., V., VI., VII., which all died, where the serum appeared to exercise no favourable control upon the temperature whatever. On this basis a steadily falling thermometer justifies the practitioner in giving a favourable prognosis—all other clinical data, of course, being equal. This thermic specificity of the serum leads me to the question of the more important therapeutic specificity.

Nearly all curative and prophylactic hyperimmune sera are specific in their action, and to obtain the maximum results it is not enough that they should be polyvalent. In the case of a joint-evil serum the immuniser should go to the bacterial flora found in the affected foal and hyperimmunise the horse with cultures derived from those from which he is going to produce his serum, while other strains derived from various sources should also be used, thereby making the serum as polyvalent and specific as possible. In addition I would suggest a polyvalent antistaphylococcal serum to be used in conjunction with the antistreptococcal serum. In severe cases I would inject these jointly intravenously, when the effect would be more immediate and more beneficial. In cases I. and V. the examination of the navel pus prior to and after the injection of the serum strikingly revealed the specific action of the serum upon the streptococci, and consequently I am of opinion that in this method we possess an important asset in the immunising rôle. I do not know if this procedure has been carried out before.

The first time I adopted it was in case I. I use an ordinary sterile 5 c.c. syringe, with the point of the needle broken off and made square with a finger file. The needle is allowed to glide

§ I think the question of dressing the navel in the hopes of obtaining good prophylactic results is largely fallacious, and overdrawn. The most that can be said fallacious, and overdrawn. The most that can be said of this principle is, "if it does no good it can do no harm." One has only to consider the anatomical arrangements of the umbilicus and its position when a foal is recumbent to see how impossible it is to sterilize the navel cord with ordinary dressing or to maintain sterility in routine practice: to ligature the navel is had surjery, and to apply caustic dressings such as carbolic acid undiluted is bad therapy. On the contrary, we must do everything to assist nature, not to thwart her. Many foals are born whose navels become bacterially infected at some period of their early life, in fact very few escape altogether, but fortunately their protective indices alone stand so high that bacterial invasion and infection is soon cut short. Where through inheritance these defensive elements are deficient the patient soon falls an easy prey to navel infection. But the navel is not the only channel of infection in subjects susceptible to joint-evil (extra utero): on this point I do not think enough attention has been given to infection through the alimentary canal.

slowly into the lumen and the serum is injected, care being taken that no air is in the syringe or needle. I found that a quantity of the serum flowed from the navel when the syringe was withdrawn, and to obviate this I now tie the stump, instructing the attendant to remove the ligature in an hour's time. I believe if a composite serum (coli., strep. and staph.) were used still better results would be

The serum treatment for joint-evil, I consider is a step in the right direction; and if an improvement in the technique of the production and use of the sera on the lines I have indicated were carried out possibly better results would follow. In the administration of the serum it cannot be too strongly impressed upon practitioners that it is necessary to inject the case in the initial stages of the disease. Virulent streptococci exert a negative chemotaxis upon the leucocytes, thereby resisting phagocytosis. The antistrept coccic serum promotes phagocytosis and neutralises negative chemotaxis. The serum is also antitoxic, and neutralises the hæmo-toxic poison of the streptococci, and it is upon this property, I believe, that the potent action of the serum observed in the foregoing cases depends, particularly from a thermic point of view.

In conclusion, I should like to point out in all fairness that those cases I have described, on the whole, were not so severe as I have seen in previous years, and I may add I have had fewer cases of jointevil this foaling season than in any previous yearthis I attribute to the lowered virulence of pathogenic bacteria generally, probably due to the excessively severe and long winter and spring. If this hypothesis holds good in joint-evil it applies with equal truth in the diminution in the number of cases last winter of influenza, strangles, and the like - at least so far as my practice is concerned.

ABSTRACTS FROM FOREIGN JOURNALS.

A CASE OF TRUE HERMAPHRODISM IN THE OX.

P. Venturi, in La Clinica Veterinaria of last year, reported the following noteworthy case. A halfbred bovine animal was brought to the slaughterhouse at Urbino as a female. The reason for slaughter was that the urine was discharged in a fan shaped stream, which depreciated the value of the animal and rendered it difficult to sell.

The external genitals exhibited the following particulars: -Below the anal aperture, and some two centimetres from it, was the vulvar fissure, which measured five centimetres in length. A little distance from the inferior commissure of the vulva, the mucous membrane, after having described a slight circular sinuosity became elevated, constituting a veritable prepuce formed by a voluminous fold. This structure showed a deep depression, from the base of which rose an erectile organ obstructing a considerable portion of the inferior part of the vulva. This latter organ was an enormous clitoris, which measured 2.4 centimetres in length. It had a small depression at its centre, but not the fibrillar structure, more compact in the periphery. external orifice of the urethra.

Upon the abdomen, precisely at the point of the scrotal region in the male and the mammary region in the female, was a small cutaneous sac of the form of a rudimentary scrotum. To the right of this, occupying the whole of the right inguinal region, were two regularly developed mammary glands.

The post-mortem examination of the internal genital organs revealed a true hermaphrodite. The male organs found were as follows: the testicles, of which the right was much smaller than the left; the epididymes, which were uniform in both testicles; the spermatic cords, which showed nothing abnormal; the vasa differentia, of which the right one was 22 centimetres and the left 30 centimetres long; the ejaculatory ducts, which were very small; and the prostrate, which was bi-lobed, and was disposed transversely to the vaginal canal.

The following female organs were found: the ovaries, of which the left was 2.5 centimetres and the right 3 centimetres long; the Fallopian tubes, which existed for both ovaries, but in different degrees of development, for the left one was rudimentary, and the right normally developed; the uterus, situated along the median line of the cavity; the broad ligament, the left inferior portion of which showed a connective growth representing the parovarium or organ of Rosenmüller; and the vagina and vestibule, with the meatus urinarius in the line of demarcation between them. The orifices of Bartolini's glands, of the minor vestibular glands, and of Gärtner's ducts, were also recognised in the mucous membrane, with the clitoris and its corpus cavernosum.

Histological examination confirmed the existence of true hermaphrodism. Under the microscope, the testicles appeared furnished with an albuginea, and they showed Highmore's body centrally. The testicular lobules were slightly visible, and the septula testis existed. All these parts were constituted by compact fibrous connective tissue. The seminiferous tubules, which normally are of almost uniform calibre, were of very variable calibre in this The interstitial substance was abundant; and in it were observed numerous interstitial cells, which abounded especially in the right testicle. The walls of the seminiferous tubes were constituted by a fine stratum of connective fibres.

In the prostate, a muscular part and another glandular part which formed the parenchyma were distinguished.

The vesiculæ seminales had an eminently glandular aspect, with notable augmentation of the muscular tunic at the expense of the internal capacity, which was reduced to the minimum.

The adventitia was normal; and diverse embryonic residues were also found.

The ovaries, at their surface, showed a cylindrical epithelial covering which differed in the two glands. In the left ovary, the cells were of higher type and were stratified, while in the right they were of lower type, and formed a single and fine stratum. Underneath this ovarial or germinative epithelium was the connective stroma, which appeared to be It was constituted by large fibro-cells with oval nuclei, mingled with which numerous elastic fibres and some leucocytes were noticed. The stroma was more abundant and compact in the left ovary. The right ovary confirmed the macroscopic aspect of complete and perfect development.

The uterus was constituted by its three tunics—serous, muscular, and mucous. The corpus cavernosum of the clitoris did not differ from the corpus cavernosum of the normal penis. The epoophoron clearly showed its tubular structure. In the female organs, as in the male, some embryonic residues

were found.

The author has made a careful analysis of the literature upon this subject. He finds that only four cases of true hermaphrodism have so far been recorded in man, and 22, including his own case, in the other mammals. Some other cases (six in man and eight in other mammals) which were very probably of true hermaphrodism, have also been recorded. The above case is the first one of Hermaphrodismus verus biglandularis bilateralis which has been recorded in the ox.—(Revista de Higiene y Sanidad Pecuarias).

CONTAGIOUS ABORTION IN CATTLE.

INOCULATION TEST IN IRELAND.

A report has been issued by the Governors of the Munster Dairy School and Agricultural Institute, Cork, on the inoculation of cattle against contagious abortion. Early last year arrangements were made at the Institute to provide veterinary treatment for herds which had suffered from this disease which has been the cause of very serious loss to the dairy farmers of the county. The Department of Agriculture kindly provided the vaccine for the necessary inoculation free of cost. For a beginning the results have been distinctly satisfactory.

The following table shows the results of the 140

inoculated :-

Curative.	Preventive	Result.
_	19	Doing well. Two did not keep the bull, but have done well since.
6	-	Doing well.
2	_	Calved all right.
10	15	Doing well; one barren.
10	=	One Kerry aborted. Two not in- oculated aborted.
6	-	Doing well: three barren.
6	_	Doing well.
4	_	Doing well.
20	42	Two of the 20 aborted, but none of the others
	-	
64	76	

Nine herds were treated, comprising 140 animals, of which 64 had previously aborted, and of these only three aborted and four were barren. In one herd of twelve cows, where two animals had not been inoculated, these two aborted, while only one of the ten inocu-

lated animals aborted.

Of the total number of cows which had previously aborted, and which were subsequently inoculated, three again aborted, being a percentage of only 4.68 of the previously aborting cows. Four of these cows were also barren. If these are added to the three cows which aborted, it gives seven cows which failed to produce a live calf within the year, or 10.93 per cent. of the total handsome elevation, proportioned, free from superfluous

of 64 aborting cows which were subsequently inocu-

Amongst the other animals, 76 in number, which had not previously aborted, and which were inoculated as a preventive measure, there was not any abortion.

In the herd mentioned last on the above list, out of 62 animals, where 20 had previously aborted, the whole herd was inoculated, and only two cows aborted subsequently. When the extremely infectious character of the disease is considered, it seems not unreasonable to infer that the inoculation of the animals which had not previously aborted, numbering in this herd 42, in a great measure helped to check the further spread of this most serious malady. Should this rate of decrease in abortion continue in the future the value of the treatment carried out during the past year will be very great.

It is to be hoped that now that there is a treatment available which offers a fair hope of greatly diminishing the ravages of the disease, farmers will notify at once any outbreak of abortion in their herds, and submit them to veterinary treatment, rather than by suppress-ing the fact and disposing of affected animals, increase the spread of a disease which has cost the country many

thousands of pounds.

An experiment confined to a comparatively small number of animals, and only carried out for one year, cannot be considered conclusive; but it confirms the results of previous experiments carried out in England, with a very much larger number of animals, and extending over a longer period.

J. F. HEALY, M.R.C.V.S. Midleton.

Farmers' Gazette.

VISIT TO THE BOARD OF AGRICULTURE VETERINARY LABORATORY, NEW HAW, ADDLESTONE.

The quarterly proceedings of the Midland Counties' Veterinary Medical Association on this occasion took the form of a visit to the new laboratory of the Board of Agriculture for the investigation and control of diseases of animals. This was by the kind invitation of Sir Stewart Stockman, who also asked the Central and Royal Counties' Associations to avail themselves of the same pleasure. This they readily consented to, and a same pleasure. This they readily consented to, and a large party representative of the three societies met at the Hand and Spear Hotel, Weybridge, on Tuesday, Sept. 25th, where they lunched together. Special conveyances were provided for the drive to New Haw, where the visitors were met by Sir Stewart Stockman and heartily welcomed. The premises are scarcely out of the hands of the contractors, whose men are still applying finishing touches, but the work was sufficiently advanced to enable the visitors to appreciate the scheme advanced to enable the visitors to appreciate the scheme and many of its details. The appliances for research work were seen to be manifold, little is wanting in the matter of equipment, whilst the out premises, in which the progress of any disease may be closely studied, are constructed on up-to date lines. Sir Stewart personally conducted the party round and explained some of the important work which is in progress there.

The buildings occupy a large quadrangle, standing well back from the road. One side is occupied by the laboratory, and the others by small detached buildings housing for experimental animals, dwelling for attendants, boiler and electric plant, lairages for swine and large animals, etc., with a narrow guage railway running round the sides and into the lairages, for convenience in

feeding and cleansing.

The main building, which faces the road, is in red brick with stone facings, of an early Georgian type, of decoration, well lighted, and altogether suited to its The lower rooms are lined with white tiles, the wall angles eliminated by curved tiles, the junctions of walls and floor filled with curved granitine paving in modern hospital style, and they are admirably lighted

In the museum a number of specimens are shown, mainly connected with Swine fever, Johne's disease, and Foot-and-mouth. These are beautifully preserved, and Sir S. Stockman considers that, when completed, this collection of pathological specimens will be one of the

best in the world. Dominating the museum from the wall is a splendid buffalo head brought by Sir Stewart Stockman from East Africa.

Visits were paid by the party to the X-ray room, the photographic dark room, the diagnosis laboratory with post-mortem room attached, the bacteriological laboratory and various work rooms. One room is allotted to a battery of steam sterilisers with, in addition, electric and hot air chambers. One pattern of electric centrifuge runs up to 8000 r.p.m., and one, driven from the water supply gives 4000 r.p.m. There are electrically-warmed plates for conservation of specimens for examination; and a microscope mounted on a warmed plate, and enclosed by wooden casing, to maintain the temperature of specimens to be examined in vivo. The attics on the upper floor are utilised for storage: much of the necessary glass ware is there kept in racks.

Besides the useful lecture lantern, there is a projecting apparatus for showing microscopic specimens on the screen, and a cinematograph which is to be used for illustrating the movements of animals suffering from diseases affecting locomotion and other diseases which may produce objective symptoms capable of being

studied by moving pictures.

Afterwards a tour was made of the grounds and the various outbuildings—isolation boxes, piggeries, sheep pens, etc. There were several groups of animals under observation; one of the most interesting was a group of lambs nearly two years old, under control since birth, in the investigation of the peculiar disease known as "scrapie"—a disease transmitted by inheritance under given conditions. Definite knowledge on several points concerning it has been collected in recent years, and confirmed by several observers, and it is now hoped that further elucidation may follow.

Later, in the library, a series of slides was shown, illustrating certain condition in swine fever and con-

tagious abortion in cows and sheep.

At the conclusion of the inspection, tea was served in

one of the larger rooms.

VOTE OF THANKS. Mr. J. MALCOLM (President of the Midland Counties Veterinary Medical Association) said the hearty thanks of the members were due to Sir Stewart Stockman for his great kindness in inviting them to be present that day to see such admirable buildings, the finest buildings of the kind in the world at present, which was saying a very big thing. All those present had been interested and instructed by what they had seen that day, and were deeply indebted to Sir Stewart Stockman for permitting them to see the admirable arrangements that had been made for carrying out the work of the Board of Agriculture. Things are very different to-day from what they were in years gone by, when the members of the profession scarcely ever saw the members of the Board except on an occasional visit at their homes. There was no place then to which to invite veterinary surgeons. He used to go sometimes to Scotland Yard and see the little place where they did what little experimental or post mortem work was done, and he could say that one of the sheds in the present building was more than equal to all the accommodation that used to exist in Scotland Yard. The profession know that Association the honour of becoming its President some

they can appeal to the veterinary staff of the Board for information with the certainty of obtaining it.

At the end of the South African war the whole country was covered with placards relating to epizootic lymphangitis, and that time one of the local veterinary surgeons reported a suspicious case in Birmingham. himself had never seen a case, but he examined the horse, and after microscopic and other examinations he came to the conclusion that he had to deal with a case of farcy, and described it as such. He wished if possible to see some specimens of the disease, and came up to London and called at the Royal Veterinary College, but unfortunately Sir John M'Fadyean was away at the time, and he then went on to the Board of Agriculture time, and he then went on to the board of Agriculture premises and saw Mr. Cope, who was unable to show him a single specimen, and said he had never seen a case of the disease. He then went on and saw Mr. Hunting, and then, with Mr. Cope and Mr. Hunting, went to Woolwich and saw some sides. Curiously enough, a fortnight after that there were two cases in Birmingham, and he was able to say what the animals were suffering from. That was a different condition of things from what existed at ithe present day. The Board then had no means of meeting the requirements of the profession. It was only since Sir Stewart came to the Board that there had been developed the new line of research which appealed to everyone, and would be of immense advantage to every every member of the profession. Not only could information be obtained from the Board, but there might possibly be an opportunity some day for the younger members to obtain some laboratory training in the Board of Agriculture's building, and training in the right way. In that connection, he thought the Board might possibly extend their present facilities a little further than they had done in the past, particularly in connection with foot-and-mouth disease. Specimens had been shown that afternoon, but how much better would it be for the veterinary staff in the country if they could see actual specimens of the disease. Very few young members of the profession at the present present time had seen the actual disease, and he ventured to say it would be to the benefit of the Board and the benefit of the profession if those young members were given an opportunity of seeing the disease when it occurred. It would certainly add to the benefit of the community, because men would be able to say whether they were dealing with a case or not. Practice after all was ahead of theory in some things. three years ago two cases occurred in the Birmingham abattoirs. He was away from home at that time, but his colleague saw them and was not quite sure. All the traffic was stopped in the markets. On his return he saw them himself, and they were certainly suspicious. It turned out that it was not the disease, but if he had made a mistake then he would have been condemned by the Birmingham butchers for ever. If at that time there had been an opportunity of seeing speci-mens when the disease occurred, it would have been a great advantage, and an advantage to the profession, who would get the support of the farmers and butchers, He thanked Sir Stewart Stockman very much for what he had done for the veterinary profession, for permitting the members to be present that afternoon to see the premises, and for being ever ready to give the profession help and aid in their work.

Mr. J. WILLETT, as representing the Royal Counties Veterinary Medical Association, had much pleasure in supporting the cordial vote of thanks to Sir Stewart Stockman. Every visitor that day had appreciated his great kindness. As a matter of fact, Sir Stewart had always been kind to the profession since he had been at

time back, and he believed that was the only English Veterinary Society of which he had been President. At a meeting of the Royal Counties Association which had been just held, a resolution had been passed inviting him to become a life member of the Association, as a slight mark of the appreciation which the members felt for him.

Mr. N. Almond, President of the Central Veterinary Society, had great pleasure in supporting the vote of thanks. Everyone thoroughly appreciated the scientific attainments of Sir Stewart Stockman, and the use he was making of them. He was quite certain that if the lines were followed which were indicated by the establishment that had been inspected that day, the students of the future would benefit to a very great extent in their accuracy of diagnosis and their appreciation of the details of disease. Especially would that be the case in the matter of symptomology. The cinematograph which they had seen in the laboratory would play, he believed, a very important part in educating the young veterinary surgeon in recognising the forms of disease which would come under his observation, a means of education which at the present time was practically non-existent.

The motion was carried with acclamation.

Sir Stewart Stockman said he need not say what a great pleasure it had been to receive members of the profession that day. He could have wished the place had been more complete, but it was very complete in comparison with the first laboratory, the cellar dwelling in Scotland Yard, where there was hardly room to move about, as Mr. Malcolm had said. The movement began in Scotland Yard, which was followed by a somewhat better place in the country, which was still found in-adequate, and the present building had been erected. When the new building was started there was the usual trouble to get money, but it was obtained at last, and then it was found that it could not be used as fast as was desired on account of the war, and the work on the laboratory was held up, like many other things. But no attempt was made to stop the building of the place; it went on as it could be done. Now a stage had been arrived at where at least the staff had been able to take occupation and use the rooms. Mr. Malcolm was very anxious that veterinary students and others should work there. That was one of the reasons for the existence of the place that were given to the Development Commissioners when the money was asked for, namely, that anyone who really wanted to do serious work might come to the place and find everything he might require

and do his work, provided he was seriously minded.
But there had always been a difficulty with regard
to the young veterinary surgeon doing that kind of work.
Why, he did not know. He was afraid it was that the
pay they received in other kinds of work to start with rather took them away from laboratory work. It was one of the hardest things to get a veterinary student, even some of the very finest graduates with the finest brains, to make the sacrifice of spending a year or two on practically no pay to learn the business. It was well known that no amount of college training could produce a man who was fit to do research work. He had to serve an apprenticeship after he had finished his college training, and the reward at the time of training was very small. He himself for years had to teach classes of students on the grand salary of £150 a year, but he learned his business, as far as he did learn it, during those years. He greatly regretted the number of brilliant sons of veterinary surgeons who would do well at the work if put to it, but who were taken into practice. He did not despise money, and was quite certain that if a man held on long enough at science, especially veterinary science, his future would be assured. He did not say a man would make a fortune, but he would certainly obtain a Mr. BROOKE, in seconding, said he had been brought position which would keep him comfortably. Any boy into contact with Mr. Gold in many ways, all recognised would make a fortune, but he would certainly obtain a

who wanted to come to the laboratory after his college course, and was willing to work, would have room found for him and work given to him. He only hoped that the men for that sort of work would turn up. It might be possible to pay them a small salary, but that he did not know. All sorts of things were promised before the war, but one did not know how much would be forth-

coming when peace was declared.

His great pleasure in connection with the building was that it was a sign that the Board of Agriculture and the Government had recognised the importance of weterinary research, veterinary pathology and veterinary medicine in general, and he looked upon the building as a monument to their appreciation of veterinary work. Whether the laboratory would be able to turn out work which would justify its existence in his day remained to be seen but important work had already bear turned. to be seen, but important work had already been turned out, and it would be at least something to have erected such a building even for the generation that followed. He thanked the members for visiting him that day, and for the vote of thanks they had accorded to him.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

The general business of the meeting was of a formal and restricted character. Mr. John Malcolm, President of the Association, occupied the Chair, and other memof the Association, occupied the Chair, and other members of the Association present were: Prof. Macqueen; Messrs. F. L. Gooch, Stamford; S. M. Woodward, L. C. Tipper, and E. O'Neill, Birmingham; W. E. Ison, Atherstone; R. Over and A. Over, Rugby; S. J. Marriott, Northampton; J. Cormack, Coventry; J. O. Powley, Sutton Coldfield; R. Murray, Rugely; J. G. Parr, Leicester; W. Grasby, Daventry; W. H. Brooke, Handsworth; J. Martin, Wellingborough; C. F. Parsons, Cheltenham; F. V. Steward, Hereford; and the Hon. Secretary, Mr. H. J. Dawes, West Bromwich. Major Chambers, Aldershot; Mr. R. Hall, Barry, and Mr. W. H. Brown, London, also attended as visitors.

Apologies for absence were received from the follow-

Apologies for absence were received from the follow-Apologies for absence were received from the following: Sir John M'Fadyean, Profs. Dewar and Mettam; Maj. Powell, Maj. G. H. Hobson, Capt. R. Clunas, Capt. L. W. Heelis, Capt. J. Martin; Messrs. Fairer, R. Cockburn, T. J. Brain, T. Spencer, E. Hall, T. Chambers, F. H. Gibbings, R. P. Palmer, E. Ringer, R. Hughes, R. L. Phillips, H. W. Stevens, R. McGregor, T. Slipper, J. Bainbridge T. Ludlow, J. R. Carless, J. T. Allen, R. C. Trigger, W. Trigger, A. Crofts, M. Tailby, J. C. Deville, H. A. Turner, T. Duckworth, H. L. Pemberton, G. F. Prickett, W. White, J. J. Burchnall, F. O. Taylor, H. Yeomans, Capt. James Blakeway, and Mr. John Blakeway, and others.

The minutes of the previous meeting were read and

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Correspondence. The Hon, Secretary read a letter from Sir Stewart Stockman thanking the Association

for electing him an honorary associate.

A letter was read from Maj. Devine, thanking the members for their letter of congratulations.

The Hon. Sec. also read a letter from Mr. John Blakeway, agreeing to withdraw his resignation. Having regard to Mr. Blakeway's long official connection with the Association, this afforded much satisfaction.

Votes of condolence. The PRESIDENT said that since their last meeting they had lost two members by death— Mr. Gold, of Redditch, and Mr. Rutherford, of Bromsgrove. He moved that a letter of condolence be sent in the name of the Association to Mrs. Gold, whose husband was one of the best respected members they had ever had. Mr. Gold was a first-class practitioner, who had a wonderful intuitive faculty for recognising doubtful cases. He was a man they could ill-afford to lose.

him as a leading man in the profession, who enjoyed the confidence not only of his clients but of his fellow practitioners in a marked degree. "I think he killed himself with overwork," added Mr. Brooke, "for he was helping Mr. Rutherford during his illness as well as attending to his own business.'

Mr. Tipper, in supporting the motion, said that Mr. Gold was one of the most valued veterinary inspectors in the service of the Worcestershire County Council.

The motion was carried sub silentio.

The President moved a similar resolution in regard to the late Mr. Rutherford, in whom, he said, they had lost a very worthy member.

This was seconded by the Hon. Sec. in sympathetic terms, and also agreed to, those present rising as a mark of respect.

ACCIDENT TO MAJOR J. W. COE.

The Hon. Secretary referred to the misfortune which had overtaken Maj. J. W. Coe, of Stoke-on-Trent, who had not only served the office of President of the Association, but was one of the most regular attendants at their meetings. Maj. Coe had the misfortune to fall with his horse, and had dislocated one of the cervical vertebræ. Their hearts must all go out to Mrs. Coe in her heavy sorrow. She had been looking after the practice while he was away, with the aid of Mr. Trigger, and Mr. Tart. He moved that a letter of sympathy be sent to her from the Association.

This was seconded by Mr. A. Over and carried.

A notice of motion. Mr. TIPPER appealed for the support of the Association for a fund which was being raised by the Birmingham branch of the Vehicle Owners

Association to provide a motor ambulance.

The Hon. Sec. pointed out that equally deserving objects more closely connected with the profession had a claim upon their resources.

Mr. Gooch suggested that the matter be left over

until they knew more about it.

Mr. MARTIN thought it would do the profession no harm to show its sympathy in a practical way with this effort of the Vehicle Owners' Association. He accordingly gave notice that at the next meeting of the Association he would move that a sum of two guineas be devoted to the object.

Next place of meeting. It was resolved on the motion of the Hon. Sec., seconded by Mr. Gooch, to hold the next quarterly meeting of the Association in Birmingham, and to make the subject for discussion Interesting Cases brought forward by members. He took the liberty of inviting Prof. Macqueen, of whom they saw all too little at their gatherings, to attend and take part in the proceedings.

Prof. MACQUEEN said it was very good of the Hon. Sec. to put it that way, and he should have much pleasure in attending the next meeting and opening one of

the discussions.

THE CENTRAL VETERINARY SOCIETY.

The following Fellows of the Central Society were The following Fellows of the Central Society were present at the meeting at Addlestone: Mr. N. Almond, President; Messrs. F. W. Willett, H. J. Parkin, J. Shepherd, J. B. Buxton, A. E. Gostling, W. Reekie, A. E. Payne, R. J. Foreman, F. G. Samson, R. A. Philp, J. B. Tutt, J. Rowe, C. Sheather, W. Perryman, T. S. Price, W. N. Thompson, Dr. J. McI. McCall, Capt. J. T. Edwards, and Mr. Hugh A. MacCormack, Hon. Sec.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

At a formal meeting held at the New Laboratory, the following members were present: Mr. J. Willett, President; Sir Stewart Stockman, Prof. Wooldridge, Capt. E. Brayley Reynolds; Messrs. S. H. Slocock, G. E. King, W. A. Hancock, W. Pauer, G. Upton, and G. P. Male, Hon. Sec.

Apologies for inability to attend were received from Messrs. W. T. D. Broad, J. East, and J. McKerlie.

Mr. H. A. MacCormack, M.R.C.V.S., London, and Mr. J. B. Buxton, F.R.C.v.s., London, were elected members of the Association; proposed by the President and seconded by the Hon. Sec.

Mr. G. C. Robertson was nominated for election by

the President.

The President proposed that Sir Stewart Stockman should be elected a Hon. Associate and Life Member of the Association, and pointed out the great services that he had rendered not only to the profession generally but to their particular Association. He had occupied the office of President and had on several occasions invited the members to the Laboratory and entertained them most hospitably.

The Hon. Sec. seconded, and endorsed all that the President had said as to Sir S. Stockman's interest in their Association. The demonstrations to which they their Association. had been invited had been most helpful to the members, and they owed him an especial vote of thanks for including the Association in the invition to be present that day at the New Laboratory. Sir S. Stockman always had the interests of the profession at heart.

All the members present supported the proposition,

which was carried by acclamation.

Next meeting. It was proposed by the President, and seconded by Mr. Hancock, that the next meeting should be held at Reading.

G. P. MALE, Hon. Sec. and Treas.

YORKSHIRE

VETERINARY MEDICAL ASSOCIATION. [NATIONAL V.M.A.—NORTHERN BRANCH.]

A meeting was held at the Hotel Metropole, Leeds, on Friday, April 27th, 1917, the President, Mr. S. E. Sampson, Sheffield, in the chair. Other members present included Messrs. A. McCarmick, G. E. Bowman, E. Child, S. Wharam, G. C. Barber, Leeds; J. McKinna, Huddersfield; C. Pitts, Bradford; P. Deighton, Selby; W. Edmondson, Harrogate; H. Pollard, Wakefield; G. W. Carter, Keighley, and the Secretary.

An apology for non-attendance was received from Mr. Tom C. Fletcher, Sheffield.

The notice convening the meeting was first read. followed by the minutes of the previous meeting, after these had been passed and signed, on the proposition of Mr. Bowman, seconded by Mr. Pollard, there being no special correspondence and no nominations, the President read his address.

PRESIDENTIAL ADDRESS.

S. E. SAMPSON, M.R.C.V.S.

Gentlemen-In rising to give you my address, I must first thank you for the honour you have done me in electing me your chief officer for the current year, and although I am quite aware the "mantle" might have fallen on abler shoulders, I hope, with your assistance, to bring the year's work up to the level of its predecessors.

Naturally, one's first thoughts turn to the war, and some of its effects on our profession. We meet here well on in the third year of this terrible conflict, which we hope and trust will be brought to a successful issue by next year. During this time large numbers of civilian practitioners have joined up to serve their country in the A.V.C. In Sheffield before the war we had 15 resident qualified veterinary surgeons, seven of whom now hold commissions, and as you are aware one of this number has, along with several other members, been decorated by H.M. the King with the D.S.O.—I refer to Joseph Abson. All honour to him and his co-recipients. It would, I think, be only right that the profession

should, at a convenient time, acknowledge in a suitable manner these honours; and I feel sure this association will be only too glad to give what assistance it can to perpetuate the memory of these-men-and let it be done in no uncertain manner. The recent demand for more veterinary surgeons for the Army, and the reviewing of exemptions by the military authorities, has caused quite a stir in our ranks. From the report of the last Council meeting it seems pretty evident that civilian practitioners and officers of the A.V.C. are not being used to their fullest capacity, however, be that as it may, while I am quite confident it is no business of ours to tell the War Office what, or what not, shall be done with their veterinary officers, I am equally confident that the reports we have seen in our Press will bring sharply to the notice of the authorities the state of affairs in the country and the opinion of the profession generally on the matter; with perhaps the result that ways and means will be found to meet the situation without further depleting our ranks at home. If the Government decide that they must have more men for the A.V.C., I do hope that some of the men above military age will see their way to leaving their practice in the hands of a neighbour, in order that they may go to the assistance of a man of military age in a singlehanded district.

Another matter arising out of the war is the tremendous impetus it has given to motor traction with a consequent lessening of horses kept for haulage, and undoubtedly when this conflict is over there will be a big fight of motors v, horses for general utility purposes. It is up to us as a Profession to assist as far as possible in the procreation of a race of horses which will attract commercial men to employ their services-in other words we must insist on soundness, stamina and activity.

It is very gratifying to note that shortly unsound stallions will not be allowed to travel; a law which ought to have been in force years ago, for it would have saved breeders from endless failures and the ultimate giving up of horse breeding. It seems to me rather odd that the Board of Agriculture should not do as the Shire Horse Society do-have at least two men to examine their animals for soundness with the option of calling in a third opinion. I am strongly of opinion that these examinations for soundness in breeding animals should be made by graduates of not less than eight or ten years' standing, because very few of our men have had, before that time, the opportunity of watching horses grow up and stand the test of hard work; or, in other words, they have not got the practical experience to guide them in coming to a right conclusion at the crucial moment.

It is also very gratifying to note that various Societies are taking up on a sound basis the investigation of Joint-evil in foals, for many of us know to our sorrow that our knowledge of this complaint is anything but satisfactory, and what in our hands has proved successful treatment in one or two seasons may be of absolutely no use in the next one; this at least has been my experience. You will no doubt have noticed that the Clydesdale Society has got to work, and meetings have been held at which representatives of veterinary science and agriculture were present to collect evidence on Joint-evil, and I am anxiously looking forward to the time when their deliberations and those of the Shire

Horse Society will be published.

Another matter arising out of the war is undoubtedly of great importance to us, i.e., the production of Meat and Milk. I should like here with diffidence to point out that those of our men who in the past have been doing a great deal of the work which has been looked upon by a considerable portion of the profession as of a dirty and undesirable nature, have, as events have

country in the realm of agricultural practice, and it is to be regretted that more men have not fitted themselves for this branch of the profession. It ought to be the duty of our Council to see that men are turned out of our Colleges with a training that will enable graduates to grasp the many and essential points of agricultural practice. I think there is very little doubt that in the future agriculture will demand of the profession men who know and are able to advise not only about the illnesses of stock, but about their general management with regard to the important problems of rearing and feeding.

Turning now to our contagious disease, we have recently had before the Midland Association a very valuable and exceedingly hopeful report on swine fever, and one hopes that light is at last dawning on this most troublesome and difficult complaint which has cost the community so much money and loss of pigs. We must admire Sir Stewart Stockman for the manner in which he has laid before the profession the facts concerning the treatment by the serum method, and one cannot help but think that the policy of the Board or at least its chief veterinary officer, will be in the future to approach and consult with general practitioners to a greater extent, in the Board's endeavours to elucidate the problems of our various diseases. We on our part must meet them and give what assistance we can.

There occurs to all of us at times difficult cases or specific diseases to deal with, and I am firmly of opinion that if we could have a local veterinary officer responsible for the whole of the county or district in connection with the Board of Agriculture, one who we could consult and from whom if necessary, obtain suitable sera or vaccines at a small cost, it would greatly assist us to overcome complaints we encounter, and would undoubtedly place the value of our services in a better position towards our clients. Such a system exists in Lanarkshire, and is presided over by Mr. Hugh Begg with very great credit to himself and his Council.

The handsome response by our members to the Council's request for funds is sufficient evidence, to my mind, that the profession are anxious to back up the Council in their endeavour to carry on the business of the College, and it is to be hoped that the Council have already taken some steps to have our educational system included in the new scheme of education which Mr. Fisher of Sheffield University (Education Minister) has recently outlined in the House of Commons, and I should say, considering the great importance given to agriculture at the present time, that we ought to stand a good chance of getting considerable help from this scheme.

These, gentlemen, are the thoughts which have come uppermost in my mind, and I thank you heartily for your patient hearing. There are many more points one could touch upon, but being anxious not to weary you I have "dried up." It is not usual for a discussion to take place on a Presidential address, but I see no reason why that rule should not be altered. I ask you to discuss freely anything I have said or left unsaid which will benefit our profession. As we have no reporter here, I think you may rely on our Secretary to only let go to press what is best, in fact I think we can look upon

ourselves as being in committee.

Mr. J. McKinna thanked the President for his excellent address-excellent alike in matter and arrangement. With regard to the education scheme suggested by the Minister of Education, nothing had been officicially heard of this by Council at its last meeting. He thought the profession were responding very well to the Council's request for subscriptions, and he took this as a dirty and undesirable nature, have, as events have sign that the profession were desirous that the Council have turned out, been doing yeoman service to their should not be hampered in its work.

Mr. S. WHARAM congratulated the President on his address and agreed that the profession had responded nobly to its country's call, and thought that if more men were really needed they would be forthcoming. With regard to the voluntary subscriptions to the R.C.V.S., he was not very sure that it was a success, and thought it would be necessary to make it compulsory.

He had been interested in joint-ill for many years, and had read two papers on the subject. His experience was that foals born outside rarely had it, and was a great believer in trying to build up the constitution of foals by tonics, such as Fellows' and Parrish's syrups. The examination of horses as to soundness for breeding

purposes requires considerable experience.

Mr. Bowman thanked the President for his interesting address. He thought that perhaps the War Office had not used civilian V.S. as well as they might have done, though, of course, he was bound to admit that

they should know their own business best.

Regarding swine fever, he had much greater faith in the serum treatment than at first, and thought he had been more successful latterly in preventing its occur-rence. There certainly had been a few deaths from wasting and septic pneumonia, but on the whole he should regard the treatment as a success.

The SECRETARY also thanked the President for his address; and spoke of the difficulty he had met with in

the treatment of joint ill in foals.

Mr. W. Edmondson joined the others in thanking the President. He also was of opinion that the War Office had not utilised the services of the civilian V.S. as they

might have done.

Mr. E. CHILD also added his word of thanks, and agreed with the previous speakers with regard to the use of civilian V.S. by the War Office. He was of opinion that there should be no relaxing of the standard of general education necessary, apart altogether from veterinary education. It had always seemed to him there was a great lack of knowledge as to the varieties of swine fever, and room for very much more work in connection with it. There seemed also some difficulty in the estimation of the quantity of serum necessary, but, of course, the whole system was as yet in its early stages.

His experience of the army was that the baths for mange at the base were a distinct success, but that units

were very variously equipped.

He agreed that practical experience was very necessary to be successful in the examination as to soundness of horses for breeding purposes, and thought no subject led to more grievances or trouble than this

Mr. McKinna then proposed a vote of thanks to the

President, which was carried unanimously.

The PRESIDENT thanked the members for the useful remarks on his address, and was glad to hear that the various speakers were unanimous with regard to the War Office not employing civilian practitioners sufficiently to assist in military duties. It seemed a pity that specialists should not be employed at their particular study to the advantage of the army.

The difficulty he found with regard to foals being born at grass was that most of them were born inside, and the unhygienic conditions on a good many farms

were absolutely beyond description.

The examination as to soundness of breeding animals was undoubtedly one of the greatest importance, and this fact requires the greatest possible emphasis, which

I think members have freely expressed.

Mr. McKinna exhibited eight vesical calculi weighing 10 drams, and three renal calculi which he had taken from a 15-month-old Pekingese spaniel which had died-probably from uraemic poisoning-and on which he had been asked to make a post-mortem. Considering the age of the dog, the case was absolutely unique in his experience.

Mr. CHILD quoted a case of retention of urine in a dog and Mr. Sampson cited a case of persistent vomition in a dog which, post-mortem, was shown to be due to two renal calculi: there being no vesical ones present.

Mr. S. Wharam reported a case of a cart horse which picked up a screw nail used for securing galvanised iron on roofs. The nail punctured the frog over the middle third and came out in the heel; the nail was extracted, foot pared out and disinfected. There was great lameness and pain. Slings were tried, but all efforts to control the horse were in vain and slaughter had to be re-The post-mortem revealed no fracture or sorted to. ulceration of navicular bone, and he was at a loss to account for the most excruciating pain shown.

Mr. Sampson asked if the horse was a shiverer and

received a negative reply.

Mr. P. DEIGHTON raised a query with regard to white heifer disease-why the complaint was only seen in white ones. Members expressed various opinions with regard to pigmentation, etc., but no definite reason could be assigned.

A vote of thanks to the President concluded an interesting meeting, and the members present adjourned

to tea.

J. CLARKSON, Hon. Sec.

THE GLASGOW VETERINARY COLLEGE, INCORPORATED.

A meeting of the Board of Governors of the Glasgow Veterinary College, Incorporated, and the eighth annual general meeting of the association were held within the office of the secretary, 105 St. Vincent Street, Glasgow, on Wednesday afternoon, Sept. 26th, Sir Hugh Shaw Stewart, Bart., c.B., presided. The annual reports, accounts, and balance sheet, as at 31st March, 1917, were submitted and approved.

It was reported that the Corporation of Glasgow had reappointed Bailie Irwin and Councillor Turner as their representatives for three years from 1st October, 1917, and that the School Board of Glasgow had reappointed

Dr. Scanlan until 30th September, 1918. It was further reported that Mr. S. H. Gaiger, F.R.C.V.S., had been appointed Professor of Pathology, Bacteriology, and Protozoology at the College, and that, in addition, he was to devote his time to research work, making a special enquiry into the sheep disease known as braxy. It was stated that the preliminary steps had been taken in connection with the equipment of a Bacteriological Laboratory at the College.

It was reported that an effort was being made to extend the Lectureship on Meat Inspection by includ-

ing inspection of milk.

The conditions of the future awarding of the Allen Thompson Gold Medal were submitted and approved. The Finance, College, Executive, and Examinations Committees, and their conveners were all re-elected. Mr. Hugh Duncan, M.A., LLB., writer, 105 St. Vincent Street, Glasgow, was re-elected Secretary and Treasurer. It was reported that the classes at the College re-opened that day for the current session.

The alternating use of antiseptics.

Charles Richet holds on theoretical grounds that a surgeon should never use a particular antiseptic solution for two consecutive days in the treatment of a wound (C. R. de l'Acad. des Sciences, 1916, p. 589). He showed in 1914 (ibid., clviii, p. 764) that microbial organisms (the lactic ferment) developing in abnormal solutions—that is, those which contain feeble quantities of a toxic body—become accustomed very quickly sometimes in twenty-four hours, to the unfamiliar sub-

stance applied, and Richet believes that when a given antiseptic is used for a wound for several weeks the microbes become gradually adapted to it, so that its antiseptic action is notably weakened. A daily change of the antiseptic solution is therefore a rational pro-

He groups antiseptics thus: (a) Oxidizing antiseptics, such as hypochlorites, hypobromites, iodine, chlorine, oxygenated water, ozone, and potassium permanganate; (b) metallic antiseptics—namely, salts of mercury, silver, zinc, copper, iron, etc.; (c) ar matic derivatives, phenols, salicylates, thymol, naphthol, cressote, etc.; (d) diverse antiseptics, such as formol, chloroform, essences, chloral, fluorides, boric acid, etc.

He suggests the use of a substance out of groups a, b, c, and d, respectively, on four successive days, followed by a different member of each of these groups on the next four days, and so on. He holds that the great advantage of a daily change of antiseptic solutions is that the microbes which multiply in the wound have each day to strive against a different poison, so that they have no time to acquire tolerance. He thinks the same principle should apply to remedies for internal diseases also. Just as in tuberculosis each new remedy may give a good result for some days, he suggests that the parasites of malaria, syphilis, or typhoid fever, may possibly acquire a tolerance of drugs taken by the mouth.—Brit: Med: Jrnl:

ROYAL VETERINARY COLLEGE, LONDON.

LIST OF MEDALS, CLASS PRIZES, ETC., AWARDED AT THE OPENING OF THE SESSION, 1916-17.

COLEMAN PRIZES.—Silver medal: Mr. F. C. Scott;

CENTENARY PRIZES.—Silver inedat: Mr. F. C. Scott;
Bronze medal: Mr. L. P. Pugh.
CENTENARY PRIZES.—Class A: Mr. R. W. A. Watchorn; Class B: Mr. W. J. Leyshon; Class C: Mr. W. A. Williams; Class D: Mr. F. C. Scott.
ROYAL AGRICULTURAL SOCIETY'S MEDALS.—Silver

medal: Mr. L. P. Pugh; Bronze medal: Mr. F. C. Scott. RALLI PBIZES IN PRACTICAL SURGERY.—1st Prize: Mr. L. P. Pugh: 2nd Prize: Mr. E. Wallace; 3rd Prize: Mr. F. C. Scott.

Clinical Prizes.—Class A.—1st Prize: Mr. C. N. Thompson; 2nd Prize: Mr. C. R. A. Powell; 3rd Prize: Mr. H. L. Hobson.

Thompson; 2nd Prize: Mr. C. R. A. Powell; 3rd Prize: Mr. H. L. Hobson.

Class B.—1st Prize: Mr. W. J. Leyshon; 2nd Prize: Mr. T. J. Margarson; 3rd Prize: Mr. A. Bakar.

Class C.—1st Prize: Mr. W. A. Williams, Mr. J. McCunn, &q.; 3rd Prize: Mr. B. Sayer.

Class D.—1st Prize: Mr. F. C. Scott; 2nd Prize: Mr. L. P. Pugh; 3rd Prize: Mr. E. Wallace.

Class Prizes.—Class A.—Chemistry and Toxicology—1st Prize: Mr. W. R. A. Watchorn: 2nd Prize: Mr. A. S. Canham; Practical Chemistry—1st Prize: Mr. A. S. Canham; 2nd Prize: Mr. R. W. A. Watchorn; Biology—1st Prize: Mr. R. W. A. Watchorn; 2nd Prize: Mr. H. L. Hobson; Minor Anatomy—1st Prize: Mr. W. R. A. Watchorn; 2nd Prize: Mr. A. S. Watchorn; 2nd Prize: Mr. C. N. Thompson.

Class B.—Anatomy—1st Prize: Mr. W. J. Leyshon; 2nd Prize: Mr. A. Bakar, Mr. T. J. Margarson, &q.; Physiology—1st Prize: Mr. W. J. Leyshon; 2nd Prize: Mr. J. R. Pratt; Histology—1s Prize: Mr. W. J. Leyshon; 2nd Prize: Mr. J. R. Pratt.

Class C.—Pathology—1st Prize: Mr. J. McCunn; 2nd Prize: Mr. W. A. Williams; Materia Medica—1st Prize: Mr. J. McCunn; 2nd Prize: Mr. W. A. Williams; Prize: Mr. J. McCunn; 2nd Prize: Mr. W. A. Williams; Prize: Mr. J. McCunn.

Class D.—Veterinary Medicine—1st Prize: Mr. F. C. Scott: 2nd Prize: Mr. L. P. Pugh: Surgery—1st Prize: Mr. F. C. Scott: 2nd Prize: Mr. L. P. Pugh: Surgery—1st Prize: Mr. F. C. Scott: 2nd Prize: Mr. L. P. Pugh: Surgery—1st Prize: Mr. J. Prize: Mr. J. Prize: Mr. L. P. Pugh: Surgery—1st Prize: Mr. J. Prize

Class D.—Veterinary Medicine—1st Prize: Mr. F. C. Scott; 2nd Prize: Mr. L. P. Pugh; Surgery—1st Prize: Mr. L. P. Pugh; 2nd Prize: Mr. F. C. Scott.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

D. Hamilton, Ballina	£1	1	0
F. T. Harvey, St. Columb	1	1	0
J. Littler, Oakham	1	1	()
Previously acknowledged	883	8	0
	£886	11	0

German use of Animal Diseases.

The following disclosures were made by Mr. Lansing concerning the plot against Roumania organised by the German diplomatic couriers, who were Germans. exempted by international privilege from the supervision of the Roumanian police, had conveyed from the German Consulate at Brasso, in Hungary, to the German Consulate at Bucharest boxes of infernal machines and tubes of bacilli.

"At eleven in the morning of Oct. 5, the Secretary of the American Legation and the Roumanian Prefect of Police went to the Legation, where the porter-a German who had been in the service of the Legation for over twenty years—said that a box and several cases had been buried in the garden. "At another spot in the garden, protected by a covering of firewood, was found a box bearing in red wax the German Consulate seal and the following direction :-

"By King's Messenger! Very secret! Not to be thrown!"

Bucharest For Herr Kostoff. To his Honour the Colonel Military Attaché to the Imperial Bulgarian Embassy at Bucharest, Herr Samargieff.

Beneath this first wrapper was a second, with the

following direction:
"Very secret. By tele. to Royal Colonel and Military Attaché, his Honour Herr von . . . — the name had been rubbed out, but traces of the letters Ham . . . t . in were recognisable (Colonel von Hammerstein was the German Military Attaché).

Inside the box was a typewritten note in German to

the following effect:
Herewith 4 (four) tubes for horses and 4 for horned cattle. For use as directed. Each tube is sufficient for 200 head. If possible, administer direct through the animal's mouth; if not, in its fodder. Should be obliged for a little report on success with you. If there should be good news to report, Herr K.'s presence here for a day desirable."

In six little wooden boxes were found test-tubes filled with yellowish liquid. These phials and the cartridges were then sent away to be reported on. The latter were found by the military laboratory to be high explosives with great destructive effect. The Institute of Bacteriology reported that the test-tubes contained glanders and anthrax bacilli of very virulent culture.—Daily Telegraph.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Sept. 27.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Capt. W. Tully Christic relinquishes his commn. on account of ill-health contracted on active service, and is granted the hon, rank of Capt. (Sept. 28).

A STATE OF

Sept. 29.

Temp. Lieut. F. Morphy relinquishes his commn. on account of ill-health, and is granted the hon. rank of Lieut. (Sept. 8).

Oct. 4

Temp. Capt. C. C. Clark relinquishes his commission on account of ill-health, and is granted the hon. rank of Capt. (Oct. 5).

The following casualty is reported:-

KILLED-Actg. Sgt. R. Boast, 4089 (Burton-on-Trent)

Personal.

WEST—EASTE. On Sept. 27, at St. Alban's, Westcliffe, by the Rev. C. H. Rogers, M.A., John E. West, F.R.A.M., F.R.C.O., son of the late William West and Madame Clara West, of Hackney, to Marion (Minnie), youngest daughter of the late William Easte, M.R.C.V.S., and Mrs. Easte, of Prince's Risborough, Bucks.

Mr. Edward Measures, M.R.C.V.S., of East Rudham, King's Lynn, gives notice that he has assumed the surname of Chatterton, and that in future he will be known by the name of Edward Measures Chatterton. The enrolment bears date 25 September, 1917.

OBITUARY.

D. I. Hinge, M.R.C.v.s., Heathfield House, Hale, Farnham, Surrey. Graduated, Lond: May, 1855.

Mr. Hinge died on the 13th Sept., 1916, Aged 85. He was Army V.S., 1st Class, and Hon. Inspecting V.S.

Adolf Von Baeyer

Professor Adolf von Baeyer, whose death in Munich was announced last month, was prominent among the founders of Germany's chemical industry. His early studies were devoted to the constitution of complex molecules, and much of our knowledge of the architecture of organic compounds is due to his brilliant investigations. His work, though at first of a purely scientific character, soon found industrial application, and a trade in synthetics was set up. His greatest achievement, perhaps, was the preparation of synthetic indigo, with naphthalene in one case and benzene in another as a starting point. The process, after the expenditure of very large sums of money, was acquired by the Badische Analin und Soda Fabrik at Ludwigshafen, which is quite distinct from the Farbenfabriken of F. Bayer & Co. at Elberfeld—also a very large concern. Adolf von Baeyer was born in Berlin in 1835, and was a pupil of Bunsen and Kekulé. In 1860 he became assistant professor in Berlin at the Technical college, then from 1872–1875 in Strassburg, and lastly the head of the university laboratory at Munich, the famous Liebig's chair.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

			Anthrax		and-1	Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Swine Fever.		
Perio	od.			Out- breaks	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN. Wee	k end	led Sept	. 29	6	6	1		1	1	18	24	4	18	9
Corresponding week in	1	1916 1915 1914		8 6 9	8 6 12			1 2	3 17	11 9 4	22 20 4	6 2	60 27 94	29 118 598
Total for 39 weeks,	1917		•••	348	396			22	36	1964	3761	404	1795	782
Corresponding period in	{	1916 1915 1914	 	442	471 503 612	1 22	24 108	41 38 81	101 68 249	1758 632 1520	3950 1365 2642	195 163 155	3536 3163 3157	8768 13920 31068

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries. Oct. 2, 1917

+ Counties affected, animals attacked:—London 1

Excluding outbreaks in army horses.

IRELAND. V	Week ende	ed Sept	. 29	· · ·						Outbreaks	3		
Corresponding V	Veek in	1916 1915									8 7	11 2	49 43
Corresponding v		1914								1 1	7		1
Total for 39 week	ks, 1917		•••	3	5			1	1	40	292	185	1079
Corresponding po	eriod in	1916 1915		3	7					54 58	317 314	256 193	1681 1105
		1914		1	1	76	957			€7	407	161	842

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 1, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1527.

OCTOBER 13, 1917.

VOL. XXX.

THE COUNCIL MEETING.

The Council proceedings last week were very long, but far from being of importance commensurate with their length. Obviously one subject was discussed at much greater length than was at all

necessary.

By far the most pressing question mentioned was The utterances of the President and finance. Treasurer speak for themselves; members cannot give a too careful consideration to the words which fell from both. Taken together, the two speeches show the immediate financial position of the College and its prospects for the next few months; they also show the main causes which are producing the present condition of affairs; and they indicate the sole remedy. Our legislators have never asked for voluntary subscriptions so urgently and forcibly as at this meeting; and it is to be hoped that members will respond promptly. Otherwise the Council will be forced either to a heavy sale of our scanty stock, or a reversion to the unsatisfactory single-examiner system, or perhaps to both these evils.

The needlessly long discussion upon the Fellowship examination was not altogether satisfactory in some respects; but its results seem fairly clear. Very few who read the report will doubt that Mr. Barrett based his criticisms upon an insufficient acquaintance with the examination. matter may well be left to rest where it is, with some regret that it was forced into so much publicity. The one good result arising from the discussion—a result which we owe to a remark from the senior examiner—is the clearing up of a misunderstanding between the Council and the examiners with regard to the new Fellowship Regulations. One Regulation empowers the examiners, at their discretion, to impose an additional written or practical examination upon any candidate. The Council consider that the "spirit" of this Regulation requires the examiners to exercise their power in this respect more frequently than they have been doing. It is well that this point is made clear; for, having regard to the wording of the Regulation, the examiners cannot be blamed for construing it as they did.

As usual, there were a number of items in the business-such as the alterations in the University Matriculation certificates recognisable for exemption, and Council's refusal to register the holders of three different Colonial diplomas - which are of distinct interest and importance: but none are of the same urgency as the question of finance.

SURGICAL TREATMENT OF COMPOUND FRACTURE OF THE RIB.

By Capt. A. R. ROUTLEDGE, A.V.C. (T.F.),

Method of operation. An incision, varying in length according to the class of fracture, is made along the middle line of the rib, down on the bone. The periosteum dissected back till the rib is exposed all round. Great care must be taken in carrying out this detail to guard against puncture of the thorax.

Some cases are easier to deal with than others; inflammatory action and suppuration occasionally cause mechanical separation and leave the rib more

or less bare.

Having completed the dissection, the rib is cut transversely above and below the fractured area with a strong pair of bone cutters, and the excised piece lifted out.

Transverse fractures are comparatively easy to deal with: a bone spoon or the finger is placed under the rib, lifting and pulling it up while the rib is severed with the cutters.

Extreme caution must be exercised when the rib is 'broken into long, sharp fragments, which in removal are apt to puncture the pleural cavity.

Varying sections up to five inches of rib have been excised in this series of operations. Only two cases required a second operation.

After-treatment is as for a granulating wound. Suppuration should be reduced to a minimum in a few days if all the damaged bone has been removed, it it continues a second operation is indicated.

Summary of 16 cases treated:

1 died 3 days after operation from pneumo-thorax. 3 destroyed: one, chest punctured during operation; one, three days after operation-pneumothorax; one, twenty-five days after operation -pus burrowed behind the rib stump: septic pleurisy developed.

5 doing well-with average of 28 days treatment. 7 cured and issued in (average) 41.5 days.

No. 3 Vety. Hospital, B.E.F.

SHEEP DIPPING.—At Berwickshire Sheriffs' Court at Duns, recently, John Prentice, corn merchant, Berwick, was fined £603 for having on his farm 603 sheep which had not been dipped in conformity with the sheep dipping regulations, and for having made a return to the Chief Constable stating the sheep had been so dipped. He was fined 10/- on each animal for each offence.

Royal College of Veterinary Surgeons.

QUARTERLY MEETING OF COUNCIL.

The Quarterly Meeting of Council was held at the College, 10 Red Lion Square, London, W.C., on Friday, 5th October, Mr. F. W. GARNETT, J.P., President, occu-

pied the Chair.

The following members were present: Major Abson, D.s.o., Messrs. G. A. Banham, W. F. Barrett; Dr. O. C. Bradley; Messrs. J. C. Coleeman, A. Lawson; Sir John M'Fadyean; Prof. A. E. Mettam; Messrs. W. J. Mulvey, T. S. Price; Prof. E. S. Shave; Mr. S. H. Slocock: Sir Stewart Stockman; Maj. Gen. Thomson, c.B.; Mr. P. Wilson, Mr. George Thatcher, Solicitor, and Mr. Fred Bullock Secretary. Bullock, Secretary.

The minutes of the last meeting of Council, Minutes. which had been printed and circulated, were taken as

read and confirmed.

Apologies for absence. Letters regretting their inability to attend the meeting were received from Major Brittlebank, Mr. Carter, Mr. Dunstan, Mr. Howard, Mr. McKinna, Maj.-Gen. Pringle, Mr. Packman, Mr. Trigger, Mr. Wharam, and Mr. Clarkson.

OBITUARY.

The SECRETARY read the Obituary List.

Admissions to Membership.

The Secretary read the following list of members who graduated in July, 1917:-

London.—11th July.

T. F. Arnold	K. A. Miles
P. W. Blove	C. S. Northcott
R. B. Crichton	L. P. Pugh
J. S. Garewal	E. A. Rucker
J. W. Knowles	E. Wallace (July 11)
T. J. Lewis	J. H. M. White
F. C. Scott	(19th March, 1918).

Liverpool. -- 12th July.

R. Gorman	E. P. Shallcross
T. A. Elam	J. J. M. Barry
J. B. Garside	E. A. Pearce

Glasgow.

G. L. Bradley (7th June, 1918). F. McKenzie (14th July, 1917).

Edinburgh.—14th July.

H. M. Roemele	W. S. Petrie
F. Christopher	R. E. Bond
T. Grahame	A. F. Lamont
J. P. Rice	

Dublin.—17th July.

S. Conway	H. C. I. Kelly
S. R. J. Cussenn	G. McElligott
T. J. Eastwood	R. W. M. Mettam
A. A. Hayman	H. O'Neill
J. G. Hoban	A. P. Preston
T. Hodgins	W. L. Sinton

FINANCE COMMITTEE.

Mr. LAWSON read the report of a meeting of the

Finance Committee held on the 5th October.

Financial statement. The Treasurer submitted his financial statement for the quarter, showing an adverse balance of £34 0s. 11d., and liabilities amounting to £52 12s.

It was resolved: "That the financial statement be approved and that the Treasurer be ordered to pay the liabilities shown, together with monthly salaries, petty cash, gas, electric light, insurance and coal."

"That in view of the increased cost of railway fares and other expenses of the examinations, it be remitted to the Chairman of the Examination Committee and Secretary to endeavour to arrange for the holding of the various examinations in December next at not more

than three centres in England, Scotland, and Ireland."

Voluntary Subscriptions. The Secretary reported
that the amount received from voluntary subscriptions
during the year was £386, but that about 200 members who had sent subscriptions in 1916 had not renewed

them for the present year.

Mr. Lawson, in moving the adoption of the report, said: Sir, If those gentlemen who voluntarily subscribed in the first year will only renew their subscriptions it will place the College in a very much better position, especially as we have the Christmas examinations before us, and they will cost us a great deal of money. Mr. Mulvey will no doubt have a few remarks to make on other points.

Major Gen. Thomson: I second the motion.

Mr. MULVEY: I was hoping that some of the members would have had something to say about the financial statement, but as they have not done so I must draw your attention to one or two facts. You will notice first that the amount received in fees at the various centres amounted to £831 18s., and that the cost of conducting the examinations was £769 5s. 7d. That is the actual cost without counting anything in the way of establishment expenses. That leaves a balance of £62 12s. 5d. for the July examinations. You will also notice from the accounts that we are indebted to the bank in the sum of £34 Os. 11d. The question now is, How is this to be met? We have to face the Christmas examinations which, as is well known, in these times will mean a very considerable loss to our finances-at least £100. I want to ask the members whether they can suggest how this is to be met, and how we are to obtain funds in order to carry on. In addition to the £34 0s. 11d. that we owe the bank, we have certain liabilities to meet up till next Christmas that will amount to about £200: before the end of the financial year in March next they will amount to £500. Unless we can hope to receive a very large addition to the sub-scriptions that we have received hitherto, we are going to be in a hopeless muddle. I must leave it to the members of Council to suggest some means of getting out of it.

Mr. COLEMAN: May I say that when the report of of the War Emergency Committee proceedings is published in The Record, I think you will find that certain subscriptions will come in that have been held back. To my certain knowledge a large number of members have refused to pay their subscriptions this year because they thought the Council had been very tardy in airing their grievances. I think you will find that after the publication of the War Emergency Committee report a large number of those subscriptions will come in now that the members see that something has been done for

The PRESIDENT: You will have observed, Gentlemen, that the financial position is not so satisfactory as we could have hoped. We know that it is impossible to make any profit on the examinations, taking the winter and summer examinations together; and it is from the profit on the examinations that we have always been able to carry on and finance the general expenses of the profession. Owing to the war, that state of things has now come to an end, and we must appeal once more to the members of the profession loyally to support us in these days of short commons. I hope that what the Treasurer said will bear fruit, and that we shall receive

sufficient voluntary subscriptions to tide us over up to the end of the financial year, in March. It must be borne in mind that we have reverted to the two-examiner system, the system which has the approval of practically the whole profession. Twelve months ago, when the Council instituted, for financial reasons, the single-examiner system, it had the disapproval practically of the whole profession. The members of the profession must realise that the cost of the additional examiner means at least £500 a year to this Council. We saved that amount last year; we have to meet it it this year; and that is why we specially require additional funds—in order that we may carry on in the same way as we used to be able to do. Prosecutions, I may mention, have been cut down to the very lowest number compatible with the upholding of the interests of the profession. There are undoubtedly cases that would be brought up excepting for the knowledge that the financial resources of the Council do not justify any but the most flagrant cases being taken in hand. I hope when the profession know these facts and see how seriously we are placed, they will come to our help and voluntarily subscribe the money which is necessary to carry on the work of the profession.

Maj.-Gen. Thomson: In the meantime I presume the Treasurer wants some money to carry on with.

The PRESIDENT He has authority for an overdraft at the bank.

Mr. PRICE: Would you not send a letter to a certain number of the members trying to get them to renew their subscriptions?

The PRESIDENT: I do not think that would be advisable.

The resolution for the adoption of the report was then put, and carried unanimously.

REGISTRATION COMMITTEE.

The SECRETARY read the report of a meeting of the Registration Committee held on Thursday, 4th October, from which it appeared that nine cases were considered by the Committee. In one case it was resolved that a prosecution be instituted. In the case of Edward J. Sewell the Solicitor reported that, in accordance with Section 8 (2) of the Veterinary Surgeons Act, 1881, Mr. Sewell's Solicitors had demanded the reasons for strik-ing Mr. Sewell's name off the Register of Veterinary Surgeons. The Committee recommended that the following answer be given: "The reason for removing the name of Mr. Edward J. Sewell from the Register of Veterinary Suogeons is that, after due consideration of the complaints against Mr. Sewell and the report of the Committee to whom it was referred to investigate the same, the Council were of opinion that Mr. Sewell had been guilty of conduct disgraceful to him in a professional respect." The Committee also recommended that it be left to the President and Solicitor to conduct any communications with the Privy Council on the subject.

The Solicitor reported that in another case the conditions imposed by the Committee at the previous meeting had been complied with, that an undertaking and an apology had been received and the costs paid.

The Secretary reported that in three other cases undertakings had been received. In three further cases it was resolved that no action be taken, while another case was ordered to stand over for further evidence.

Circulars issued by the Worshipful Company of Farriers announcing courses of Lectures on Farriery and Veterinary Matters were submitted, and it was resolved that the matter be left in the hands of the President, the Secretary being instructed to furnish him with copies of previous correspondence on the subject. Other correspondence was submitted, and the Secretary was instructed as to the replies to be sent.

The Solicitor submitted his report in connection with the application of Mr. Ll. Crook for the restoration of Examination in December 1917.

his name to the Register, it having been moved under Section 6 of the Act. It was resolved that the application be not acceded to.

On the motion of the President, seconded by Major-Gen. Thomson, the report was received and adopted, and on the motion of the President, seconded by Major-Gen. Thomson, it was unanimously resolved that the Seal of the College be affixed to the order of prosecution referred to in the report.

EXAMINATION COMMITTEE.

On the motion of Mr. Mulvey, seconded by Maj.-Gen-Thomson, the report of a meeting of the Examination Committee, held on Thursday, July 19th, which had been printed and circulated, was taken as read and confirmed.

Mr. W. J. Mulvey was re-elected Chairman for the ensuing year.

Correspondence. A letter dated 15/7/17 was received from a student in Class A who had been rejected at the July examination in Junior Anatomy only, asking whether he might proceed to Class B, and complete his examination in Anatomy in the Class B examination.

It was resolved: That the application be not acceded

An application was received from Mr. E. J. Wardle for exemption from any further preliminary examination, he having been admitted as a student by the Royal Colleges of Physicians and Surgeons.

The Secretary was instructed to confer with the Secretary of the Conjoint Board, and to report to the next meeting.

Preliminary Educational Examinations.

It was resolved: That the following preliminary Educational Examinations be recognised as qualifying a student in respect of General Education:

University of Cape of Good Hope: Senior Certificate Examination.

London University: Junior School Examination; General School Examination.

Universities of Manchester, Liverpool, Leeds, Shef-fleld, Joint Matriculation Board: School Certificate Examination; Higher Certificate Examination.

University of Bristol: School Certificate Examination. University of Calcutta: Preliminary Scientific Exam-

University of Madras: Matriculation Examination. University of Bombay: Preliminary Scientific Exam-

ination, or previous examination.
Punjab University: Matriculation Examination. United Provinces (India) Education Department: The School Leaving Certificate may replace the Matriculation Examination of any of the Indian Univers-

Universities and Colleges of the Province of Ontario: Junior Matriculation Examination.

Further, That in the case of examinations which are accepted for Matriculation in the faculties of Arts and Science in any University of Great Britain, the certificate be recognised provided that it includes English, Mathematics, and at least two other subjects named in the following list :-

Latin, Greek, Arabic, Persian, French, German, Spanish, Italian, Russian, or any approved modern Language, History, Geography, Natural Philosophy or Physics, Chemistry, Biology, Physical Geography, and

Geology.

Mr. Mulvey read the report of a meeting of the Examination Committee held on Thursday, October 4th. Correspondence. A medical certificate was submitted in the case of Mr. N. S. King, Class A, who was unable

to be present at the Examination in July 1917.

It was resolved that the fee paid be held over for the

Reports on July Examinations. Reports were received from the Chairman of the Board of Examiners, the Local Secretaries and Delegates on the July Ex-

aminations, and it was resolved

That the reports be approved. That letters of thanks be addressed to all persons and institutions who had rendered assistance in connection with the conduct of the Examinations. These include:—

Mr. J. R. Hayhurst, Superintendent, Metropolitan Cattle Market, for supplying specimens for Anatomy, Pathology, and Meat Inspection Examinations.

The Secretary of Senatus, Edinburgh University, for use of room for the Written Examination. Col. Stratton, A.D.V.S., for supply of horses, Edinburgh

and Glasgow Examinations.

The Secretary, West of Scotland Agricultural College,
Glasgow, use of room for the Written Examination. The Registrar, Liverpool University, use of room for the Written Examination.

The Liverpool Corporation, use of Stables, Smithdown

Lane, for Practical Examinations.

Mr. James Cloake (Timothy Byrne), 16 City Quay, Dublin, Materials for Meat Inspection and Live Stock for the Clinical Examinations.

Sir F. Moore, Royal Botanical Gardens, Glasnevin, Dublin, supply of botanical specimens.

The Registrar, Royal College of Science, use of room for Written Examination.

Col. Rutherford D.D.V.S., supply of horses.

Fellowship Degree. Reports were read from the following examiners in reply to the criticisms made by Mr. Barrett on the Examination held on May 12th, viz: Prof. J. Macqueen, Mr. J. Malcolm, Mr. W. Woods, Col. F. Raymond.

It was resolved to recommend: "that the Regulations for the Fellowship Degree be referred to the Examination Committee for re-consideration, with special reference to the defect indicated in the report of Professor

Macqueen.'

Fellowship Degree; Appointment of Examiners. It was resolved: "That this matter be deferred until the appointment of Examiners to be made at the meeting of Council in April, 1918."

Preliminary Educational Examinations. A list of recognised Preliminary Educational Examinations revised in accordance with the recommendations made at the previous meeting was submitted and it was resolved to recommend

(i) That the University Matriculation Examinations be recognised on condition that the pass certificate includes English, Mathematics, and at least two other subjects, one from each of the following groups:—

(a) Latin, Greek, French, German, or any other ap-

Latin, Greek, Frence,
proved Modern Language.
Geography, Natural Philosophy or
Description Geography History, Geography, Natural Philosophy or Physics, Chemistry, Biology, Physical Geography and Geology.

(ii) That the following proviso be added to the list: "The Council reserves to itself the right to accept two complementary certificates granted by different examining bodies (with the exception of those marked with an asterisk), or to accept certificates not included in the above list.

(iii) That the word approved be inserted before the words "Modern Languages" in the paragraph headed

"Required Subjects."

(iv) That after December 31st, 1918, Erse, Gaelic and Welsh be not considered approved modern languages

for preliminary educational certificates.

Exemptions. The Secretary reported the result of his interview with the Secretary of the Conjoint Board, with regard to the application from Mr. E. J. Wardle

and it was resolved: "That the application be not ac-

An application was received from Mr. S. W. J. van Rensburg, an undergraduate of the Cape University, asking whether he could obtain exemption under Byelaw 62a from the first year's course, if, after obtaining his B.A. Degree he subsequently studied Chemistry in the University and passed in that subject.
It was resolved: "That the Secretary be instructed

to reply in the negative."

Educational Certificates. Educational Certificates numbered 1663, 1664 and 1665 were submitted and approved.

Foreign and Colonial Practitioners. Applications from the following holders of Colonial Veterinary Foreign and Colonial Practitioners. Diplomas for Registration as Colonial Practitioners were submitted and considered :-

P. Lamb, Diploma of the McKillip Veterinary College. E. Thurston, Diploma of the McGill University Montreal.

F. J. Braund, Diploma of the Ontario Veterinary College.

It was resolved to recommend: "That as the Diplomas in question are not "recognised veterinary diplomas" in accordance with the provisions of Section 13 of the Veterinary SurgeonsAct 1881, the applications be not acceded to."

Secondary Schools Examinations Council. (29th Aug. 1917) together with Circular No. 1010, were received from the Board of Education announcing the constitution of a Secondary School Examinations Council to assist the Board in the co-ordination of such examinations, and suggesting the establishment of a Standing Committee of Professional Bodies.

It was resolved to recommend: "That the suggestion be approved, and that the Chairman of the Examination Committee be nominated to represent the College

on the proposed Standing Committee.

Mr. MULVEY: With regard to the letters of thanks which it is suggested should be addressed to all persons and institutions who rendered assistance in connection with the conduct of the examinations. I do not know whether it would not be advisable that the names should be inserted, so that they can appear in the Press.

The Secretary: It is quite a long list; we have not

done it before.

Mr. MULVEY: People like to see such an acknowledgment in print in the Journals, and it occurred to me it would be as well if the list was inserted.

The PRESIDENT: We may take it as agreed that that will be inserted. (Agreed).
Sir Stewart Stockman: With regard to the question of the Fellowship Degree, is there any recommendation that in the meantime an instruction should be issued to the examiners for the new Fellowship to exercise that discretion in the other direction?

The President: It is not necessary. I understand that Mr. Bullock always draws the attention of the Fellowship examiners to it, and that they may at any time insist on a written examination. The matter will

come up in the discussion on the report.

Mr. MULVEY: I move the reception of the report. Major Abson: I second the reception of the report. Sir STEWART STOCKMAN: I do not want to discuss it in Council, but was not the question raised whether some immediate action should be taken? I was under the impression that that was so.

Mr. MULVEY: There was no such suggestion made at the meeting: it was not proposed or brought before the Committee. Only a discursive discussion took place. As a matter of fact, an extract from the instructions is

sent to each examiner.

Sir STEWART STOCKMAN: I think the best plan to for exemption from further preliminary examination, adopt would be to let the matter go, and raise it on the

discussion of the report, as the President says.

The motion for the reception of the report was then put and carried unanimously.

The President: The Report is now open for dis-

Sir Stewart Stockman: With regard to the Fellowship Examination, we discussed the matter, as every member of the Examination Committee knows, at some length. It will be within your recollection that a letter

was read from Prof. Macqueen with which I think almost every member was more or less in agreement. He pointed out certain defects in the examination, but when we came to analyse them they were not altogether defects; they were rather defects in the way that the examiners interpreted their instructions. It is open to an examiner, in addition to accepting the Thesis, to examine the candidate upon the subject upon which he claims to be made a Fellow, and, so far as we can make out, it has not been customary for the examiners to conduct such an examination. One can quite well understand the reasons for that. It is very much less trouble simply to read the thesis and let the man through if he has written a fairly good thesis, but I venture to think that that is altogether in disaccord with the spirit of the regulation. The regulation was intended to mean that in the majority of cases, except in the case of a very excellent thesis, the candidate was to undergo an examination on the subject upon which he claimed to be made a Fellow, and I would like to suggest that even now, before the Committee considers the matter, instructions should be sent to the examiners explaining, if the Council agree, that that was the spirit in which the regulation was framed—that the examination was not to be discarded at their discretion, but rather that an examination was to be held at their discretion.

Mr. THATCHER (Solicitor): That is provided for by

the Bye-law.

Mr. MULVEY: I should like to ask that the replies of the Fellowship Examiners be read.

The President: Certainly. I will ask Mr. Bullock

to read the replies of the Fellowship Examiners.

The SECRETARY: As there were two sets of examiners I would like to read them in order, namely, Mr. Malcolm, Mr. Woods, and Prof. Macqueen, who examined under the old regulations; and then Prof. Macqueen and Col. Raymond, who examined under the new regulations.

28 Standishgate, Wigan. July 25th, 1917.

Dear Sir,

Re Fellowship Examination Test.

With regard to Mr. Barrett's remarks concerning the above examination. It is difficult to know to which candidates he referred. There were three candidates examined by two sets of examiners. I believe Mr. Barrett was within hearing for a portion of the examination of the Candidate I examined along with Prof. Macqueen, but if this is the one he refers to, he is apparently under the misapprehension that the candidate passed He did not pass. Therefore, however low the test, it was sufficient to reject the candidate. Of the other two candidates I know nothing. Yours obediently,

WM. WOODS.

The Secretary, Ryl: Coll: of Vety. Surgeons.

City of Birmingham Vety. Dept., Holliday Street Wharf. July 13th, 1917.

Dear Mr. Bullock,

I have to acknowledge receipt of your note enclosing copy of report made by Mr. Barrett on the Fellowship Examination on May 12th—together with an extract the test that was submitted to the members in respect from The Veterinary Record of June 9th, containing of the Fellowship degree . . .", and that he "was Mr. Barrett's speech at the Annual Meeting of the deeply disappointed at the test . . .", I would say

Royal College of Veterinary Surgeons, and your request

for my observations on the matter.

In reply thereto, I may say that I have read the copy of Mr. Barrett's report and of his speech. In his speech Mr. Barrett says "I was struck with the insufficiency of the test," and again, that "having listened to the examinations, I was deeply disappointed at the test." On reading this one naturally concludes that, in Mr. Barrett's pointing the complete had failed to make the again. opinion, the examiners had failed to make the examina-tion sufficiently searching, and although in his subsequent report of June 27th he states that the "examiners were all that could be desired," the statement as to the insufficiency of the test still remains.

At the examination in question, there were only three candidates for examination—two under the new regula-tions, and one under the old. The former satisfied the examiners and passed, the latter did not satisfy the

examiners and failed.

No distinction in the animadversions is made between the examination under the old regulations and that under the new-from the context they would appear to

apply to both.

It was the "test that was submitted to the members" (i.e., candidates) he deemed insufficient. As to any defect in the Fellowship Examination under the new regulations, I cannot speak. My duties were, as you know, solely with the examination of the candidate under the old regulations.

I may say I was rather surprised at Mr. Barrett's speech, as I did not hear him make any remark upon the examination, except to state that he was surprised at the candidate's not knowing some particulars I happened ask, but I was not at the table part of the time my colleagues were questioning the candidate. No exception was taken as to the written questions set, or as to the practical part of the examination-indeed there could not be about the latter, as Mr. Barrett was not present at it. Yours faithfully,

JNO. MALCOLM. F. Bullock, Esq, Ryl: Coll: of Vety. Surgeons.

16th July, 1917.

Re Fellowship Examination, May 12th, 1917.

In reply to your letter of the 12th inst., I beg to state that at the Fellowship examination on May 12th, 1917, three candidates were examined—one under the *old* and two under the *new* regulations. The candidate under the *old* regulations submitted a thesis on "Actinomycosis." It was read by the three examiners, and after consideration it was "accepted for defence," which means that, while the quality of the thesis was doubtful, the candidate should have the opportunity of showing under oral examination whether or not he possessed a satisfactory knowledge of the subject of his paper. In this part of the examination the candidate failed to satisfy the examiners, and his defence of the thesis was marked "insufficient." In the written portion of the examination—on Pathology, Hygiene and Medicine—this candidate failed to obtain the minimum number of marks, and he was rejected. Under the new regulations two theses in Tropical Medicine were submitted for examination. The subject of the first was "Posterior Paralysis," and that of the second was "Heat Prostration." Both theses were accepted, and in the oral examination the defence of the thesis by candidate No. 1 was "good," and that by candidate No. 2 was "sufficient." Both candidates passed.

Regarding Mr. Barrett's remarks (Veterinary Record, June 9th), that he "was struck with the insufficiency of

that if he were better acquainted with the nature of the examination he would probably modify his criticisms. If Mr. Barrett's comments were based on the examination of the candidate under the old regulations they were superfluous, for this candidate was rejected; and if they were directed to the examination of the two candidates under the new regulations they were not justified by the facts as viewed by the examiners.

The thesis on "Posterior Paralysis," in my judg-

ment, was a conscientious attempt to explain the nature and causation of a disease in cattle, and the author deserved commendation for the industry, painstaking effort and first-hand knowledge shown by his paper and

by his defence, which was "good."

The thesis on "Heat Prostration" was a fair paper, giving the author's views of the nature and causes, and his experience of the complications and treatment of heat stroke as it affects horses in India. This subject, though mentioned, is not dealt with at any great length in veterinary text-books, and although the thesis in question did not reveal the "deep scientific knowledge," which Mr. Barrett appears to consider essential, it is not "a repetition of what he (the author) had read in books." It was not a brilliant paper, but it had sufficient merit to warrant its acceptance by the examiners. In his defence the candidate showed that he had made a close study of the effects of heat prostration in horses.

As one of the examiners since 1893 I may be allowed to add that the examination tests for the Fellowship Diploma have kept pace with the advance of professional knowledge. With few exceptions the quality of the theses has gradually improved in substance, style and composition, and although "originality of thought" cannot be said to have been a predominating feature of many of the papers, there has been a steady gain in the character and value of the information submitted by the authors. Under the old regulations the examination was comprehensive and searching, and more likely to reach the candidate's store of "deep scientific knowledge" than that under the new regulations, but in these days of specialisation some concession must be made to the specialists. Mr. Barrett suggests that the regula-tions "should be overhauled and speeded up," and I agree with him to this extent-that candidates for examination in any one of the subjects under Clause 3, Revised Regulations, should, in addition to furnishing a thesis and defending it, be further examined practically or by written papers in that branch of veterinary science to which the subject of the thesis belongs. This further examination is now left to the discretion of the examiners (eee Clause V, Revised Regulations). Apart from this, Mr. Barrett's remarks have no good points, and I am doubtful if he has noted clearly even this small loophole in the Regulations. His comments would have been more acceptable had they been less fantastic. He should improve his acquaintance with the examination, for doubtless he has a genuine desire for ideal excellence in examination tests and in this he is one of many, including—Yours faithfully,

To F. Bullock, Esq., Secretary,

Ryl: Coll: of Vety: Surgeons. J. MACQUEEN.

c/o Holt & Co., 3 Whitehall Place, S.W. 20 July, 1917.

Ryl: Coll: Vety: Surgeons.

Secretary,

Dear Sir,-In consequence of the receipt of your letter of 12th July, 1917, enclosing a communication and the report of a speech by Mr. W. F. Barrett, I have re-read the "new" Regulations for the Fellowship, and I have seen again the theses of the two candidates I examined with Prof. Macqueen.

I am of opinion that the examinations were conducted

regulations, and that our verdict constituted a correct interpretation of the regulations.

Mr. Barrett does not appear to be dissatisfied with the examiners nor with their methods; his criticism seems to be directed at the standard of the examination.

I venture to remark that the standard is rather a matter for the Council to fix than for an examiner to discuss unless specially requested, more especially as the standard has been changed comparatively recently, both as regards the qualifying period and the subjects.

Yours truly, FRANK W. RAYMOND,

Sir Stewart Stockman: As the matter is now going to be discussed, I think it would be advisable to read Regulation 5, because it clears up the whole situation. Regulation 5 reads: "In the event of the Thesis being accepted, the candidate will be required to present himself for an oral examination on the subject matter of the Thesis submitted, and may, at the discretion of the Examiners, be examined practically or by written papers in that branch of Veterinary Science to which the sub-ject of the Thesis belongs. This oral examination will be held at the Royal College of Veterinary Surgeons, or such other place as may be determined. Due notice will be given to candidates who may be required to submit to a practical or written test." The point is this, that the regulations are in spirit very good indeed, but the examiners have for some reason not been carrying out this discretion in what, I take it, the Council thought to be a right direction. It was for that reason I thought it well that we might notify them of what we consider the spirit of those regulations.

The President: I might point out to Sir Stewart Stockman that the Secretary always draws the attention of the examiners to these regulations, and especially

points out this one. Is not that so? The Secretary: Yes.

The PRESIDENT: The only question is, is it the desire of the Council that the word "may" in the third line of the Regulation be transposed into "shall"?

Sir Stewart Stockman: That is another matter.

The PRESIDENT: The idea was to leave the Fellowship

Examiners a free hand.

Sir Stewart Stockman: I do not think you have quite followed what I said. We cannot alter the word "may" into "shall" without giving notice for an alteration of the Byelaw, but it is quite open to us to indicate to the examiners what the intention was-that they should not scamp the written examination.

Sir John M'FADYEAN: I suggest that if the minutes read are adopted the question will stand referred to the Examination Committee. There can be only one Fellowship examination held probably before the Committee will represent to the Committee. mittee will report to the Council, and I suggest therefore that it would really be better not to endeavour to come to a decision now, even with regard to the important point to which Sir Stewart Stockman has directed attention.

Sir Stewart Stockman: Then I withdraw. Sir John M'Fadyean: I do not think that we should tell the examiners that the opinion of the Council when these regulations were adopted was that there ought always to be a written examination in the subject to which the Thesis belonged. I think that we must have deliberately intended that that was to be left to the discretion of the examiners.

Sir STEWART STOCKMAN: I quite agree. My point was that the examiners were not following the spirit of the regulation. The examiner himself says that this thesis was of doubtful value and he examined him in

the subject of the thesis.

Sir John M'FADYEAN: With regard to that matter I should like to say that I think Prof. Macqueen's point by my colleague and myself in accordance with the would have been a very good one coming from any other

person but himself or his colleagues, but it was not a defect except in so far as he failed himself to stop up a gap that he looked for. We trusted to him and his colleague to stop it up. We have no criticism to meet with regard to that at all. Although I do not think Prof. Macqueen can have intended to say that they were not satisfied, as a result of reading the thesis and questioning the candidate on it, that he was entitled to the Fellowship without a written or oral examination, they nevertheless decided to give him the Fellowship without that second examination. That cannot be what he intended, but that is the literal meaning of what he says. Sir Stewart Stockman: On the understanding that

there is only one examination to be held before this matter can be fully discussed and put right, I withdraw the proposal I made that an instruction should be issued

to the examiners in the meantime.

Mr. BARRETT: With your permission, Sir, I want to

say a few words on this matter.

Mr. Mulvey: Before Mr. Barrett replies, may I be allowed to say that when the Examiners are written to and their papers are received from the candidates a copy of the printed regulations is sent to each Examiner, and you will see from the paper I have in my hand that full instructions are given to the Examiners as to the method in which the examination should be carried

Mr. BARRETT: I only want to say a few words on this matter, because I expressed myself very fully after most mature consideration in the letter which I had the honour to address to you. I would like to say further that I do not complain a bit at the criticisms which have been hurled at me. I am much obliged to my colleagues for the forbearance they have shown me with regard to a matter in which they do not agree with me. I think it is good that there should be opposite opinions on this Council. It has the effect of raising points for discussion, and in a sense does advance the interests of the profession. Nor do I in the least complain of the reports which the Examiners have submitted. If I may say so, I am very much surprised that Prof. Macqueen has been so mild in his report. We all know Prof.

Macqueen; he says things which he does not in the
least mean. When he calls me "fantastic" I do not
quite know how to interpret the word. If I am "fantastic," he is sometimes "acrid," but I am bound to say he has been most courteous in replying to me on this occasion. I had not seen these reports before I came into this room. Perhaps I have been a little remiss in that respect, but I have not been in very good health. But I think you will all agree with me that these reports on the whole do go to show that with regard to this examination there has been some confusion, and there is not unanimity on the part of the Examiners as to the merit and standard of the examination. When I delivered my short speech at the annual meeting, Sir John M'Fadyean very hastily asserted that I had attacked the Examiners. I think that assertion is sufficiently refuted by reason of the report which has been forwarded to this Council by Col. Raymond, who seems to be the only Examiner who has really seen the point. He candidly admits—he states so—that there was no attack at all upon the Examiners, that there was no complaint as to the Examiners. I merely expressed my disappointment as to the standard of the examination, and Col. Raymond is quite correct when he said that that is a matter for the Council, and not for the Examiners.

Sir Stewart Stockman: Which examination?
The President: The old or the new?
Mr. Barrett: I should like to read what Col. Raymond says in his report. He says: I am of opinion that the examinations were conducted by my colleague and myself in accordance with the regulations, and that our Mr. BARRETT: It must have been the Council's verdict constituted a correct interpretation of the regu-standard. What else could it have been? If I am

lations. Mr. Barrett does not appear to be dissatisfied with the Examiners nor their methods." Of course not.

Mr. MULVEY: Of course you were.
Mr. BARRETT: I think I might be allowed to speak without interruption. I did not interrupt anybody.

Mr. MULVEY: But you are making statements. Mr. BARRETT: I am not making statements; I am simply reading what Col. Raymond says in his report. He says: Mr. Barrett does not appear to be dissatisfied with the Examiners nor their methods; his criticism seems to be directed at the standard of the examination." Of course that is so. "I venture to remark that the standard is rather a matter for the Council to fix rather than for an examiner to discuss unless specially requested, more especially as the standard has been changed comparatively recently, both as regards the qualifying period and the subjects."

The President: May I just draw your attention to one fact. There were two sets of examinations, one under the old scheme and one under the new.

Mr. BARRETT: I know all about that.

The President: Will you differentiate your remarks in that respect, because Col. Raymond examined under the new scheme, and I believe you were not present when the two candidates were examined. You were present when the single examinee was being examined under the old scheme. Just keep that quite clear,

because they are quite different regulations.

Mr. BARRETT: I am much obliged to you. The position is this. I came to Red Lion Square on the morning of the afternoon of the examination for another purpose. In the unfortunate absence of Mr. Malcolm purpose. In the unfortunate absence of Mr. Malcolm owing to domestic affliction, for which I am sure we are all very sorry, Mr. Bullock asked me if I would act as delegate. I said I should be very pleased to do what I could. I thereupon entered the room. One candidate was being examined on the subject of Heat Prostration by Prof. Macqueen, and Col. Raymond was sitting beside him. I heard a portion of the examination, and I had the opportunity of gripping the mental capacity. I had the opportunity of gripping the mental capacity of the man in regard to this subject and his attitude generally. Thereupon the next candidate came before the Board and he was examined upon the thesis of Actinomycosis. I heard the whole of this candidate's examination. It is true he was rejected, but he was only rejected after some, I will not say trouble-I want to be quite accurate—but after careful consideration. The decision hung in the balance as to whether he should pass or whether be should be rejected.

Sir John M'Fadyean: Why not?

Mr. Barrett: Because he was so hopeless in his attitude and in his general knowledge.
Sir John M'Fadyean: Who said he was hopeless.
Did the examiners say so?
Mr. Barrett: What the examiners said to me was

this-

Sir JOHN M'FADYEAN: This is an attack upon the examiners.

Mr. BARRETT: I do think, Sir, it is too bad. I did not interrupt you, Sir John; give a man a chance and be fair. After the man had left the table, the man who was examined upon Heat Prostration, I cannot give you the exact words that Prof. Macqueen said to me, but he was not very pleased with the result of the examination. He inferred that the standard did not give him satisfaction, and he moreover inferred that the standard generally was not satisfactory from a professional and scientific aspect. I did not write down his words, but I am quite sure that that is the impression he conveyed to me.

Sir John M'Fadyean: May we ask whether that was the standard fixed by the Council or the student's

standard?

wrong it is purely a matter of opinion; it is not a personal matter at all. Then the other man came forward and Prof. Macqueen examined him. He examined him with a good deal of enthusiasm and with a real desire to ascertain the extent of his knowledge. Thereupon Mr. Malcolm took him to the table upon which there was a microscope and many specimens. Mr. Malcolm had taken a great deal of trouble over the matter. The man was not there very long; I saw from Malcolm's manner that he was hopeless. Mr. Malcolm came back to the table and inferred again generally-I am sorry I did not take down the exact expression, but he inferred that the man had not the remotest knowledge of the use of the microscope.

Sir Stewart Stockman: That man did not pass. Mr. Barrett: That man did not pass, but as against that it hung in the balance whether he should pass or not. Gentlemen, I do not desire to say any more. Whatever view you may hold, in my view the examination was not a sufficient examination. Whether the examiners confused the regulations, and whether they ought to have submitted the candidates to further tests I am not concerned with. All I say is that the men who were before the examiners were not mentally equipped with the degree of knowledge which in my view, at this stage of the profession, is required of us. The President: Those that did get passed?

Mr. BARRETT: I think so.

The President: The question resolves itself down to one man who, I understand, under the new regula-

tions, has been awarded the Fellowship.

Mr. Barrett: Macqueen was not pleased with the other man who did pass; he expressed that feeling to me. I can only leave it at that, Sir, it is very much more pleasant to get up at this table and say nice things with regard to the progress of the profession. I should have much preferred to have reported to you that we were advancing, that the test was adequate, and so on aud so forth. One never likes to say unpleasant things, but one should be honest in one's convictions. I am going to be honest and fearless, and say this—that in my view the standard of the examination is not that which it ought to be, having regard to the scientific development of the present time.

The President: Will you differentiate between the

old and the new.

Mr. BARRETT: I have nothing more to say on the

matter. Sir.

Sir John M'FADYEAN: I am aware that I have already spoken, Sir, but I merely rise to say

Mr. BARRETT: I rise to a point of order.

Sir John M'Fadyean: Allow me to make my submission.

Mr. BARRETT: I ask for your ruling, sir, on the point

of order.

Sir John M'FADYEAN: I rise to move that we should not discuss the matter or come to a conclusion now. I have no intention to give up my right of speech. I am sure that we all agree with Mr. Barrett in his concluding remarks that above everything one ought to be honest.

Mr. BARRETT: Mr. President, I rise to a point of order. My submission is that Sir John, having spoken, is not entitled to speak again, and that he is taking unfair advantage of me by speaking twice. I ask for your ruling.

The President: I certainly think that Sir John may speak after what you have said. I take it that it is a

matter of personal explanation.

Mr. Barrett: If that is so, it is all right. Sir John M'Fadyean: I think we must all agree with Mr. Barrett that every speaker here is expected to be honest, and he must be honest even although what he has to say is unpleasant. But I would also like to regulations which places any obstacle in the way of the

say that we also expect speakers to be logical, and I am bound to say at once that I never heard Mr. Barrett make a speech so hopelessly illogical as the one to which we have just listened. His first point, seizing an expression in Col. Raymond's letter, was-

Mr. BARRETT: Do you rule, Sir, that this is in order? This is not a personal explanation. This is a criticism

of my speech.
Sir John M'FADYEAN: I repeat, Sir, that his first point was-

Mr. Barrett: I rise again to a point of order. Do you hold, Sir, that this subject is in order?

The President: I think this matter had better be settled, and that it would be best to thrash it out to-day. Mr. BARRETT: I understood we were not going to

have criticisms to-day.

The President: It is in the hands of the Council.
Mr. Barrett: If you rule against me, of course I bow to your ruling; there is no other course open to me.
The President: I take it that it is the wish of the Council that this matter should be discussed; you do not want it hanging over your heads.

Mr. BARRETT: Sir Stewart Stockman withdrew his motion on the understanding that we were not going to

convey a criticism to-day.

Sir Stewart Stockman: I am going to claim the

right to speak again.

Mr. BARRETT: I think the whole of the proceedings are irregular.

Sir STEWART STOCKMAN: I claim the right because I understand that you came into the room after the dis-

cussion was started.

Sir JOHN M'FADYEAN: Will you allow me, Sir, to make an appeal to Mr. Barrett? I am quite sure he is not so thin-skinned that he cannot listen to anything I say by way of fair retort. I put it to him that I made no reference to Mr. Barrett when I spoke before; I suggested that there should be no discussion on this, and that we should not endeavour to come to a decision.

The President: I rule, Sir John, that you are in order, and I do so for this reason—that you were speaking before on the amendment that Sir Stewart Stock-

man had proposed.

Sir JOHN M'FADYEAN: I shall not detain the Council more than a few minutes. I only desire to deal with one point in Mr. Barrett's speech, and that was the one in which he accused me of having been too hasty when I interpreted what he said on the previous occasion as an attack on the examiners. He now asks the Council to believe that what he said on that occasion did not amount to an attack on the examiners, but to an attack on the system imposed on the examiners by the regulations of this Council. Is there any person sitting round this board who has a moment's hesitation in deciding that what he then said and what he has implied now, amounts to an attack upon the examiners, and a very serious one? The gist of what he tells us is that in his opinion the candidates did not display the amount of knowledge entitling them to be considered fit for the Fellowship Degree. He tells us that the examiners, in his opinion, were in a position of great hesitation, with an inclination towards rejecting the student. I do not want to misinterpret what Mr. Barrett said.

Mr. BARRETT: You are, absolutely. Sir John M'FADYEAN: I think not. Mr. BARRETT: I am sure you are.

Sir John M'Fadyean: I am in the hands of the Council with regard to that. He then tells us that in spite of that this student was passed, in one instance, at any rate; or perhaps his complaint with regard to the student who was finally rejected is that he was not rejected quickly enough. But what I want to ask is this: Will Mr. Barrett put his finger on any point in our

examiners rejecting any of the students. He spoke about cases." That answer was most significant. Here was a a student not having come up to the standard. He must mean that the studeut did not come up to the standard of our examinations, in which case he ought to have been rejected but was passed, and therefore his criticisms fall on the examiners. But we have not fixed the standard of examination absolutely; we have only defined what are the subjects; and in what sense is the Council re-sponsible for any one of these men being passed if, as Mr. Barrett appears to think, he ought to have been rejected? I repeat my opinion—I do not think any other is possible—that all Mr. Barrett's charges amount to an attack on the examiners, and he is not entitled to one iota of credit because they think, having regard to what Prof. Macqueen has said in his letter, that it may be desirable to amend the regulations. But that did not arise out of any of Mr. Barrett's criticisms.

Sir STEWART STOCKMAN: May I rise to a point of explanation? Purely with a view of remedying what might possibly be a misinterpretation of the regulations, I suggested something that might be taken as a criticism of the examiners, and was a criticism of the examination. Mr. Barrett referred to that-not specifically, but he said that the discussion here had given some support to his criticism that the examination was imperfect.

Mr. BARRETT: I never said that. Sir STEWART STOCKMAN: That does not refer to the examination under the old regulations, because the man was rejected. With regard to the new rules, I would like to ask Mr. Barrett whether he had the opportunity ot reading any of the theses. If he did not read the theses then I say he had no right to come to a conclusion that the examination was defective, because the examiners have read the theses, and, rightly or wrongly, on the theses, had decided that they should be accepted. The thesis plus the examination was sufficient to satisfy them, but no man who had not read the thesis had any right to come to a conclusion that the examination was defective. That is the point I want to raise. I do not associate myself with Mr. Barrett at all in this matter.

Mr. BARRETT: May I say one word, Sir? The President: Certainly.

Mr. BARRETT: I am rather sorry that Sir John has introduced the question of motive into the discussion. I quite appreciate that there must be differences of opinion with regard to this matter, but it is not fair, and it does not prove anything, to get up and assert that my speech was an illogical one. Let him show that he is correct and I shall be convinced, but a mere assertion amounts to nothing, and that is what his speech amounts to generally. I can only repeat what I said. I adhere to my conviction that there was some confusion in the minds of the examiners with regard to the regulations, and that the regulation was not carried out,

The PRESIDENT: Which regulation ?

Mr. BARRETT: And that generally the standard of the examination was of a low character.

The PRESIDENT: Will Mr. Barrett kindly mention the regulation to which he refers.

Mr. BARRETT: I am referring to the point raised by Prof. Macqueen in regard to the omission in that clause, that is all. I am not blaming the examiners for that; perhaps they did not think it necessary. May I mention one thing with regard to one of the students which I ought to have said in my earlier speech? It merely shows what is going on. Prof. Macqueen asked the man shows what is going on. Prof. Macqueen asked the man who was rejected if he had done any microscopic work in reference to the subject. The man said "No." Then Prof. Macqueen said, "Have you done any original research work in reference to this subject?" The man replied, "No." Prof. Macqueen said, "What have you done besides reading your text books?" And the man said, "I have not done anything; I have been in practice in the country and I have seen a good many of these in the country, and I have seen a good many of these

man who had presented himself in these times for the important degree of Fellowship, who admitted that he had not done anything at all beyond spending half-anhour reading up the subject from some text-book, and who had seen a few cases in the country.

Mr. MULVEY: That was the man who was rejected. Mr. BARRETT: After some deliberation he was ejected.

Mr. MULVEY: But he was rejected.

The PRESIDENT: May I point out how this matter appears to me. It is all in a nutshell. Mr. Barrett was acting as delegate at the Fellowship Examination. He heard the full examination, I believe, of a man under the old regulations, and he, the examiners, rightly or wrongly, rejected. There can be no ground for complaint against that rejection, according to Mr. Barrett, because he evidently agreed with the examiners. Therefore, as regards the old regulations, the standard set by the examiners was sufficiently high to reject the student. Now, Mr. Barrett only heard part of the examination of one of the men who went up under the new regulations, and that man was passed by the examiners. Mr. Barrett seems to think that in the examiners' minds there was some doubt about it. I have no evidence at all on that point. Apparently, the examiners were unanimous that he should pass—that he was up to the standard—mind you, this is the man whose examination Mr. Barrett had only heard part of, nor, I believe, had he read the thesis. There is the whole matter. The charges that Mr. There is the whole matter. The charges that Mr. Barrett made, were, in my opinion, based on very insufficient evidence. We want much more evidence before passing a vote of censure on our Fellowship Examiners.

Sir JOHN M'FADYEAN: I want to indicate to you, Sir, that I propose, either before the report is adopted or afterwards, to move that a letter of thanks and

acknowledgment be sent to the examiners.

Mr. THATCHER (Solicitor): After the report is adopted.

Mr. BARRETT: I shall have pleasure in seconding

Mr. MULVEY: I beg to move the adoption of the report.

Major-Gen. THOMSON: I second that.

Mr. BARRETT; With the addition of Sir John's motion.

The President: No, that will come on afterwards. The motion for the adoption of the report was then

put and carried unanimously.

Sir John M'FADYEAN: I now beg to move:—That the Secretary be instructed to convey the thanks of the Council to the Fellowship Examiners for the reports that have just been read, and in doing so to say in reference to Rule 5 -this meets Sir Stewart Stockman's point with regard to the Christmas Examination of the revised regulations for the Fellowship Degree, which says that :

"In the event of the thesis being accepted, the candidate will be required to present bimself for an oral examination on the subject matter of the thesis submitted, and may, at the discretion of the examiners, be examined practically or by written papers in that branch of Veterinary Science to which the subject of the thesis

belongs.

hat the Council desire that the examiners shall exercise this option unless they are entirely satisfied as the result of the reading of the thesis and the oral examination of the candidate on it, that he is fit to receive the Fellowship Degree.

Mr. BARRETT: I second that. Sir John M'FADYEAN: But for this discussion and some of the opinions that have been expressed, especially Mr. Barrett's, I should really have thought it superfluous. It is the spirit, if not the letter, of the By-law, but apparently it is now necessary to put it absolutely in such a way that there can be no misunderstanding in the future.

The resolution was then put and carried unanimously.

Publication, Library, and Museum Committee.

Mr. Price read the report of meeting of the Publication, Library and Museum Committee held Oct. 5th :-It was resolved that Mr. T. S. Price be appointed

Chairman for the ensuing year.

Presentations to Library. The Secretary reported that since the previous quarterly meeting the following

presentations had been made to the Library:

Per General Pringle: "Cavalarice," by Gervase Markham, 1617; The Gentleman Jockey and Approved Farrier, 8th edition, 1687. J. Roalfe Cox: MS. Notes of Special Cases, Horses in Accident and Disease, with illustrations—presented by his daughter. Board of Agriof Agriculture, Report of Chief Veterinary Officer, 1916; Board of Agriculture for Scotland, Fifth Report, 1916; Agritural Statistics, Vol. iv., Part II. D.A.T.I., Report of Proceedings under the Diseases of Animals Act, 1916. S. Rhodesia, Report of Chief Veterinary Surgeon, 1914, 15, 16; Uganda Protectorate, Annual Report of Department of Agriculture, 1912, 13, 14, 15, 16; Northern Nigeria, Report of Agricultural Dept., 1915; Southern Nigeria, Report of Agricultural Dept., 1915; Rangoon, Southern Report of Veterinary Department, 1916-17; Victoria (Australia) Department of Agriculture: Report on Govt. Examination of Stallions, 1907, 8, 9, 10, 10-11, 11-12, 12-13, 13-14, 14-15, 15-16, 17; New Zealand Dept. of Agriculture, Live Stock Division, Report, 1900-1, 1-2, 2-3, 4, 5, 6, 8, 9, 10; Industries and Commerce, Annual Report, 1911, 12, 13, 14, 15, 1915-16; U.S.A. Department of Agriculture, Bulletins: Horse Breeding for Farmers, The Domesticated Silver Fox, Meat Inspection Service; College of Preceptors, Calendar 1917-18; Royal College of Surgeons, Calendar, 1917; Edinburgh University, Calendar, 1917-18; Council for the Prevention of Tuber-Calendar, 1917-18; Council for the Prevention of Tuber-culosis, Report, 1917. The Journal of the Board of Agriculture and Fisheries; Leaflets; The Journal of the D.A.T.I.; The Journal of Comparative Pathology and Therapeutics; The Revne de Pathologie Comparée; The Journal of Physiology (per Gen. Smith); The Rhodesian Agricultural Journal; New Zealand Journal of Agriculture; The Bloodstock Breeders' Review; The Veterinary Journal; The Veterinary Review; The Veterinary Record; The Veterinary News; The British Medical Journal (per Dr. Bradley): The Educational Medical Journal (per Dr. Bradley); The Educational

Purchase of Periodicals. The Secretary was authorised to purchase the following periodicals at a cost not

exceeding £2 10s. 0d. per annum :— Revue Générale de Médecine Vétérinaire; Recueil de Médecine Vétérinaire ; Il Moderno Zooiatro ; Schweizer Archiv für Tierheilkunde; Journal of the American

Veterinary Medical Association.

Register 1918. The question of printing and publishing of the Register for 1918 was considered, and in view of the cost of paper and printing, it was resolved: That as a war measure, 400 copies of the Register of names and addresses only be printed, the price to be reduced to 2/6 net.

On the motion of Mr. Price, seconded by Mr. Lawson,

the report was adopted.

HONOURS AND PRIZES COMMITTEE.

Mr. BANHAM read the report of a meeting of the Honours and Prizes Committee, held on October 4th.

It was resolved that Mr. G. Λ. Banham be appointed

Chairman for the ensuing year.

Fitz Wygram Prizes. The report of the Auditors on

the marks gained by the students eligible for the Fitz-Wygram Prizes was read, showing that the following as a result of the application made by the Solicitor to

two students gained the first and second place respectively:—R. W. M. Mettam, Royal Veterinary College of Ireland, Dublin, 821 marks; Hugh O'Neill, Royal Veterinary College of Ireland, Dublin, 810 marks.

It was resolved that the FitzWygram Prizes for 1917

be awarded as follows:

First Prize, value £39 18s. 11d. R. W. M. Mettam Second , value £23 19s. 5d. H. O'Neill. Walley Memorial Prize. The report of the Auditors

on the marks gained by the students eligible for the Walley Memorial Prize was read, showing that Mr. H. Cooper, of the Royal Veterinary College, London, gained first place with 125 marks.

It was resolved that the Walley Memorial Prize for 1917, value £7 11s. 4d., be awarded to Mr. H. Cooper. Mr. BANHAM: I move that the report be received

and adopted.

The PRESIDENT: I should like to second that, and at the same time to congratulate one of our colleagues, Prof. Mettam, on the honour that has fallen on him in the fact that his son has been awarded what we look upon as the premier prize in the schools, namely, the FitzWygram First prize (Cheers). I think that sets up a record in the veterinary profession—first the father, and then the son have got this prize, and I heartily congratulate Prof. Mettam (Cheers).

The motion for the adoption of the report was carried

unanimously.

Prof. METTAM, who was received with cheers, said:-Thank you very much, Mr. President, for your exceedingly kind words, and my colleagues for their very kind expression of sympathy shown by their applause at the result of this competition. I need not say how proud I am that my boy has succeeded in winning this prize which I know was the object of his ambition. I am extremely proud also to think that he, like his brother, is now wearing His Majesty's uniform and doing his duty (Cheers). Thank you very much.

WAR EMERGENCY COMMITTEE.

The SECRETARY read the report of a meeting-of the War Emergency Committee, held on October 4th.
It was resolved that the President be elected to the

Chair.

Territorial Force Regulations. The following motions submitted by Mr. Coleman to the Council at its meeting in July, 1917, and referred to this Committee, were considered:

That the Army Council be respectfully asked (a) To consider the grave necessity of compensation upon ceasing their military duty being granted to veterinary officers who had practices prior to the war, especially those of the Territorial Force who were mobilised and had no time to arrange for the carrying on of their practices during their absence. (b) To revoke paragraph 2 (j) of Army Order No. 406 of 1915, as this is a grave injustice to territorial officers.

That the Parliamentary Committee appointed for the purpose be advised of the anomalies affecting the promotion of temporary officers A.V.C., and those of the

A.V.C. (T.F.).

Mr. Coleman submitted two petitions from officers

A.V.C. (T.F.) bearing on the matter.

The President reported that he had communicated with the Army Council with regard to the differences in pay and promotion between officers holding temporary commissions in the A.V.C., and those in the A.V.C. (T.F.), and that he had been informed that the matter was receiving careful consideration.

It was thereupon resolved that the consideration of the matter be deferred pending the decision of the Army

Council.

Secretary's Exemption. The Secretary reported that

the Holborn Tribunal he had been granted temporary exemption for three months as from July 30th, but had been referred to the Special Medical Board for further medical examination.

On the report of the Special Board the Tribunal still refused to give more than temporary exemption, and an appeal had been lodged. A communication had, however, been received from the Board of Education enclosing a copy of Circular 952, and stating that if the course indicated in para. A of the circular were adopted the Secretary would not be called up without reference Colours.

It was resolved that the procedure recommended by

the Board of Education be adopted.

On the motion of the President, seconded by Mr. Coleman, the report was received and adopted.

APPOINTMENT OF SECRETARIES OF BOARD OF EXAM-INERS IN SCOTLAND, LIVERPOOL AND DUBLIN.

The PRESIDENT: The same gentlemen who have acted in recent years are willing to continue the work, and I propose that they be re-elected for a period of one

Mr. Mulvey seconded the motion, which was carried

unanimously.

NOTICES OF MOTION.

The President: I give notice of the following alteration of Bye-law 56, which I have already posted on the board:—"That in the case of each and every person summoned by the Council of the Royal College of Veterinary Surgeons to defend a charge of 'conduct disgrace-ful to him in a professional respect,' who shall enter a defence, a report of the charge and of the defence shall be kept by the Secretary."

OTHER BUSINESS.

Dr. BRADLEY: There is a matter under the heading of "Other Business" that I should like to bring before the Council which might have been dealt with by the Education Committee. It refers to the effect of the Military Service Acts on a number of veterinary students. Naturally, the number of veterinary students at the present time has a very material effect upon the profession, and one might say the national welfare, for some years to come. The veterinary profession is, of course, not the only profession which is seriously affected by the operation of these Acts, and it seems to me that we might follow more or less in the steps of the medical profession and endeavour as far as we can to get demobilisation, of those students at any rate who have passed, say, the first professional examination, and allow them to come back and complete their duties.

It will simplify matters and clear up the position if I tell you what has been done in respect of the medical profession. There are two Committees of the British Medical Association which have been dealing with this medical Association which have been dealing with this matter—the Committee of Reference, and the Central Medical War Committee. They are apparently making very strong representations which they have forwarded, I understand, to the Army Council. "The main steps advised are three in number"—I am quoting from a leader in The British Medical Journal of last Saturday—"In the first place all medical students now serving in the Army who have already passed their area. ing in the Army who have already passed their examinations in physiology and anatomy should be demobilised and returned to the medical schools to complete their studies." That does not affect veterinary students, because, as a matter of fact, that already applies; that is to say: students who have passed the second professional examination are already exempt, and a number of them have been returned. But the rest of the quotation does apply, namely, "In the second place, medical students now serving in the Army who have not yet

passed these examinations should be seconded to their medical schools for a reasonable period to enable them to pass them, and, if successful, should be demobilised to complete their professional education. In the third place, the calling up of bona fide medical students who have completed their first year of study should cease."

It appears to me that however desirable steps of that nature may be in regard to the medical students, they are equally, if not more advisable in respect to veterinary students (Hear, hear). One has no hesitation in suggesting that something should be done along these to the War Office, who would consult the Board before lines, because I think we all view with considerable apissuing instructions that he was to be called to the prehension the effect of a continuation of the present condition for any length of time. One has to realise further that, although there may not be very many students actually serving in the Army at the present time, still this calling up of veterinary students will continue; and even if peace were to be declared to-morrow we should not get those enlisted students back in a short time. I suggest to the Council that the matter might be taken into consideration now, and, as a basis for discussion, I move that it be referred to the Chairman of the Examination Committee and the President of the Council to consider the general effect of the operation of the Military Service Acts on a number of students and to suggest what steps should be taken to ameliorate or even to remove those effects.

Mr. BANHAM: Are there very many students?

Dr. Bradley: Not very many.
Mr. Banham: The fewer the students the more

likely we are to get them.

Sir John M'FADYEAN: I think the Council is really indebted to Dr. Bradley for having brought this matter I agree entirely with what he has said, but I am only in doubt as to whether the course which he suggests to effect what we should consider a remedy will be rapid enough. We all hope that the war will be over before another year, but what we desire in this connection is that these students should be demobilised immediately. I suggest that Dr. Bradley should move that the Council pass a resolution in the sense of the two recommendations he has read, and that the President, in the event of it being carried, be desired to bring it immediately to the notice of the proper authorities, with a view to getting it carried into effect.

The President: The Council is well aware that this matter has been up before, and that representations have been made on at least two or more previous oc-casions to the Army Council. It appears to me that this is a very good opportunity to bring the matter up again, because recruiting is no longer under the control of the Army Council; it is under the control of a separate Minister-a Minister I think who would be open to receive recommendations and advice, if I may say so-

that is, Sir Auckland Geddes.
Sir John M'Fadyean: And even information. The President: And we can get through him pressure on the Army Council.

Dr. Bradley: I alter my motion to agree with Sir

John's suggestion.

The President: This is certainly a very good opportunity. I would urge the Council to adopt a resolution in the sense that Dr. Bradley has spoken of, and I think we shall be able to get something done.

Maj.-Gen. Thomson: Why not approach both? I see

no reason why you should not approach the Army Council at the same time as you approach the Director

of National Service.

Dr. Bradley: I am just as anxious to be precipitate as Sir John. Will it meet the case if I make a formal motion and it is carried, giving powers to the Chairman of the Examination Committee and the President to take immediately all the steps they think desirable? Will that meet the point?

Sir John M'FADYEAN: Personally I should prefer

that you dealt with just the two things that you said we ought to do—students who have passed their first examination should be demobilised, in order to prepare for the second, and pass it within a reasonable time; and, secondly, that students who have passed the first examination should not be called up as long as they continue as students. Those are the two points. The Council desire that the authorities be approached im-The mediately in order to secure those two things, and that the President and Chairman of the Examination Committee be requested to take the necessary steps.

Dr. Bradley: I move in that respect. Sir John M'Fadyean: I second it. The resolution was carried unanimously.

(This concluded the business of the Quarterly Meeting of Council).

SPECIAL MEETING OF COUNCIL.

Immediately following the Quarterly Meeting of Council a Special Meeting of Council was held, over which the President, Mr. F. W. Garnett, J.P., presided, and the same members were present as at the Quarterly

The minutes of the last Special meeting, which had been printed and circulated, were taken as read, and

confirmed.

BYE-LAW 62A.

Prof. METTAM moved the following addition to Byelaw 62a:

To insert after the words "Royal Collego of Phy sicians" the words "or a degree or diploma in Agricul-

ture granted by a University."

In doing so, he said: The object of the addition is to include in the exemption students who have passed an examination in agriculture at a University, and who have obtained either a degree or a diploma

Mr. Mulvey seconded the motion, which was carried

unanimously.

BYE-LAW 61.

Mr. Mulvey moved the following alteration to Byelaw 61 :- "To omit all the words after passed in line 6, and to insert in lieu thereof the following words: 'a recognised examination in General Education."

In doing so, he said: This is suggested merely for the

sake of convenience, in order that educational certificates may be recognised and added to our list without delaying the matter. It will be possible to pass them at one meeting of Council instead of two, as at present.

Mr. BARRETT: I will second the motion, but I desire to ask a question with regard to it. If this Bye-law is passed, the first schedule in Bye-law 61 goes by the board. I should like to ask Mr. Mulvey how he proposes to give effect to that Schedule which has been deleted. The Minutes of the Education Committee for July 19th. 1917, say: "Preliminary Educational Examinations. It was resolved that the following Preliminary Educational Examinations be recognised as qualifying a student in respect of General Education." In other words, the Examination Committee, without any authority on the part of the Council and without the existence of any Bye-law dealing with subject, is to have the power to fix these preliminary examinations.

Mr. Mulvey: Subject to the approval of the Council.

Mr. BARRETT: It does not say so. Mr. MULVEY: It is necessary.

The Examination

Committee must submit its report.

The President: May I draw Mr. Barrett's attention to the fact that at the special meeting of Council held on the 19th July, 1917, at which Mr. Barrett was present, this new Bye-law was passed: "It shall be delegated to the Examination Committee to prepare and issue from time to time a list of examining bodies | Fakenham.

whose examinations in general education fulfil the conditions of and are specially recognised by the Council."
Mr. Barrett: I am much obliged; I had forgotten

that point.

The resolution was then put and carried unanimously. The PRESIDENT : That concludes the business, gentle-

men.

en. Thank you for your attendance.
On the motion of Major Abson, seconded by Mr. Mulvey, a hearty vote of thanks was accorded to the President for his conduct in the Chair, and the meeting

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Capt. W. G. Sharpe relinquishes his commn. on account of ill-health, and is granted the hon. rank of Capt. (Oct. 7).

Oct. 8. W. F. L. Bright to be actg. Maj. whilst employed as Asst. Dir. of Vety. Servs. (Aug. 21).

Oct. 11. Temp. Lieut. to be temp. Capt.:—A. McP. McFarlane (Sept. 19).

To be temp. Lieut.:—H. V. Dier (Sept. 17).

SPECIAL RESERVE OF OFFICERS.

Oct. 6. To be Lieut. (on prob.): -J. W. Beaumont (Sept. 18).

CANADIAN A.V.C.

To be temp. Lts.:—Sgt. A. H. Hughes, 226376; Actg. Sgt. A. Mackintosh, 86801; Pte. R. H. Wilson, 679212; Pte. J. B. Williams, 826611 (Sept. 1).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Capt. W. J. Cade relinquishes his commn. on account of ill-health, and is granted the hon. rank of Capt. (Oct. 6).

The following casualties are reported:

DIED-Pte. A. Coleman, 1651 (Burgess Hill). Actg. Sgt. C. Garner, 6437 (Walthamstow, E.). Pte. H. P. Stokes, 20888 (Uppingham).

DIED OF WOUNDS-Pte. H. Larder, 9212 (Blackwater). KILLED-L. Cpl. J. McPhie, 16465 (Falkirk).

OBITUARY.

ARTHUR DOYLE BINGHAM, M.R.C.V.S., Lieut. A.V.C., of Graduated, Lond: March, 1896. Bombay.

Mr. Bingham died at King's College Hospital, London, on Oct. 3rd, aged 49. Interred at Nunhead Cemetery.

Personal.

HILL-BLAND. On October 3rd, at St. Mary Magdalen, Sandringham, by the Rev. A. Rowland-Grant, Stanley Edward Hill, M.R.C.V.S., Temp. Captain A.V.C., youngest son of Henry Hill, of Saundby, Notts., to Ina Emily Bland, second daughter of Frederick William Bland, of Sandringham, Norfolk.

CHATTERTON—SHIPP. On October 9th, at St. James' Church, Piccadilly. W., Edward Measures Chatterton, M.R.C.V.S., of East Rudham, King's Lynn, to Marjorie Cooper, only daughter of Mr. and Mrs. H. J. Shipp, of

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1528.

OCTOBER 20, 1917.

VOL. XXX.

FITZWYGRAM PRIZE-WINNERS.

One very pleasant incident marked the Council meeting reported last week. The Councilmen united in congratulating Prof. Mettam upon an unique occurrence. Twenty-eight years ago Prof. Mettam himself wound up a distinguished college career by winning the first prize in the Fitz-Wygram awards; this year, his son has repeated the feat. As the President remarked, for a father and son to have obtained the prize sets up a record in our profession; and all members will join in the

congratulations that were offered.

The history of the FitzWygram prizes is interesting in several respects, and in none more so than in the subsequent career of a good number of the recipients. The first award was in 1875; and the first winner was the late John Henry Steel, whose after-work is now commemorated by the Steel Memorial Medal. The annual awards went on almost uninterruptedly till 1900, after which they ceased for a time. In 1905 they re-commenced under Sir Frederick FitzWygram's will, but with altered conditions. In the earlier period, a competitive examination had been held of the best new graduates from all the schools, each school selecting its own champions. Since 1905, the award has been based upon the aggregate of marks obtained in the professional examinations throughout the whole curriculum. The Register now contains a complete list of the prize-winners under both sets of regulations.

There is an unkind saying that men who achieve great distinction at College are seldom heard of afterwards. The FitzWygram prize list tells a different story. There are 62 names in the list of prizemen under the old regulations, including winners of second and third prizes. Some of them are now among the best known in our ranks; and a great many more, while not so distinguished as these, are yet widely and honourably known as men who have done credit to the profession. Taking a few more names from the list as present representatives of various departments of veterinary work, we might select Sir John M'Fadyean and Prof. Shave as teachers, Mr. J. S. Lloyd as a public health expert, and such men as Mr. Wallis Hoaro and Lieut. Col. E. E. Martin as clinicians. Our past and present Councilmen and Examiners include a good sprinkling of old FitzWygram prizemen; and three have already held the Presidency. A good proportion of the men in this list have helped to make veterinary history since.

The second portion of the list, being so much more recent, naturally contains fewer names that more recent, naturally contains fewer names that At Tillycairn, Aberdeenshire, on 9th inst., a Short-have yet become distinguished. But two prizemen horn bull calf, bred by Mr. William Duthie, Collynie, under the new regulations-Messrs. Noel Pillers made 2700 guineas.

and Leslie Sheather—are already recognised specialists in different lines; and several others are beginning to make themselves known, When the time comes to judge, it is probable that the second section will compare favourably with the first.

The FitzWygram prizes have been the blue riband of the British veterinary student ever since they were instituted. The capacity for passing examinations brilliantly was the main factor in gaining them under the old rules and is the sole one now; and their history refutes the not uncommon view that this particular gift is a poor criterion of success in after-life. The Fitz Wygram prize-list shows that a man who gains a place there is generally beginning an honourable professional career, and often a very distinguished one.

AN INTERESTING PIG CASE.

On Sept. 17th I was asked by Mr. R. Lisle, of New Oxley House, to look at a sow which had farrowed the day before and could not stand. The sow was a pedigree Large Black, recently purchased from Mr. S. F. Edge.

I found the animal paralysed from the loins, with both the hind legs flaccid, and insensible when

pricked with a pin.

Diagnosis.—Spinal injury.

There were two courses open: either to slaughter the sow and lose the young pigs (ten), or to try and keep her going until the offspring could feed themselves. Mr. Lisle wisely adopted the latter course; and I told him to give the sow anything she liked to eat, and to make her as comfortable as possible.

The sow was slaughtered on Friday last, the 12th inst., and post-mortem revealed fracture of posterior dorsal vertebræ, which owner says he thinks was caused by her falling backward when trying to get

out of the stye, just before farrowing.

This case is interesting inasmuch that the sow seemed comfortable, and passed fæces and urine normally, and weighed 13 score when killed. The little pigs are strong and healthy, showing that the sow was in no pain, or the secretion of milk would have been arrested; and I need hardly say that had it been otherwise she would have been immediately slaughtered.

Wolverhampton.

J. E. CARTWRIGHT.

At a sale of pedigree shorthorns, last week, 1500 guineas was given for a yearling heifer by Mr. T. A. Buttar, of Corston, Coupar-Angus. Thirty animals realised £8040—and average of £268.

ABSTRACTS FROM FOREIGN JOURNALS.

LOCALISED TETANUS TREATED BY OXIDOTHERAPY.

M. Belin reported the following case to the Central Society of Veterinary Medicine in July, 1916.

Localised tetanus in man has been observed on various occasions during the course of the war. Belin's case was a horse in civil life, which had received a wound of the left forearm in the stable.

The wound was untreated for some days; after which, as the animal was lame, the owner brought him to Belin's clinique. Belin found a fairly wellmarked lameness, and in the upper region of the left forearm, a regularly circular tumefaction of some six centimetres in diameter. The centre of this was occupied by the initial wound—a simple puncture, which was oozing slightly. No general

symptoms of illness were present.

Belin regarded the case as an abscess in process of formation: he therefore prescribed very warm fomentations, and disinfected the wound. In the succeeding days he saw a manifest improvement, evidenced by a notable diminution of the tumefaction and a less accentuated lameness. But two days of difficult progression supervened; and the next day the animal bore no weight upon the wounded limb. Belin then observed that this limb was directed backward during progression, and that it performed no movement except involuntary oscillations of the part from the knee downwards. Palpation revealed contraction of the muscles of the forearm, and other muscles. There appeared also to be a little difficulty in the movements of the

The absence of tumefaction, heat, and pain caused the hypothesis of an abscess to be eliminated. The slight elevation of the temperature, the preservation of the appetite, and the normal character of the mucous membranes and the respiratory rhythm, enabled septicæmia to be excluded from the diagnosis. On the other hand these symptoms, added to the position of the limb (which was identical with that which Belin has observed in his laboratory after inoculation of a culture of the tetanus bacillus into the analogous muscles of the rabbit), the contraction of the same muscles in this patient, and the rigidity of the neck, led him to form the diagnosis of localised tetanus. As he had not at his disposal a sufficient supply of anti-tetanic serum for treatment, he decided to apply the method which he has described before under the

name of oxido-therapy.

Experiments in the laboratory have enabled Belin to prove that it is possible to oxidize the toxins within the organism. If a rabbit receives an injection of a 48 hours culture of tetanus bacilli in the muscular mass of the forearm, and the next day shows contraction of these muscles, an injection of an oxidising substance, such as chlorate of potassium or sodium, will cause the affected limb, previously dragging inertly, to gradually resume

moves as freely as a healthy subject. When the action of the oxidising agent ceases, the muscular contraction reappears gradually until it resumes

its original severity.

By studying the action of oxidising agents upon the evolution of infectious diseases of very different types, Belin reached the conclusion that, in general, the soluble toxins are oxidisable in the organism, and that in numerous experimental affections injections of oxidising substances enable long survivals, and even recoveries to be obtained. He claims that this is a perfectly rational therapeutic method; for, as the toxins are easily oxidised, it is logical to sytematically utilise injections of oxidising substances in infectious diseases. This method, by making the toxins inoffensive, relieves the organism of their effects, and also permits a more active phagocytosis of the microbial elements, which are no longer protected by the toxins they have elaborated. Both in human and veterinary practice, clinical results have confirmed Belin's experimental conclusions.

The sole oxidising substance which Belin used to treat this case of equine localised tetanus was Permanganate of potassium. He made a solution of 1 in 150 of this salt and injected 50 c.c. every morning and 40 c.c. every evening into the muscles related to the wound, at the same time injected 10 c.c. of the solution into the tumefaction about the puncture. Improvement was observed progressively. On the seventh day Belin opened an abscess to release the pus accumulated there, freely washed out the resultant cavity, and treated it every day with powdered permanganate of potassium. In twelve days the horse was cured, and was scarcely lame at all .- (Revista de Higiene y Sanidad Pecuarias). W. R. C.

A FRESH PHASE OF WOUND TREATMENT.

Amongst the many developments in army surgery during the last three years, the use and selection of antiseptics has become of greater importance than in years of peace; and if on general scientific grounds only must appeal to the veterinary surgeon, and especially to those practising on the smaller domesticated animals. There is the common feature—common to almost every side of medical practice—that each man believes in the particular procedure that he practises.

The facts that the following experiment was based on clinical observation, and that it appears to have been carried to complete demonstration, make it interesting reading. It is given very fully, with bacteriological details (illustrated) and notes of cases, in *The Lancet* of Sept. 22, from which we have taken the following

abstract.

Preliminary communication by ROBERT DONALDSON, Bacteriological Specialist, War Hospitals, Reading; Pathologist, Royal Berks Hospital, and J. LEONARD JOYCE, Major, R.A.M.C. (T.); Surgical Registrar, R.B.H., Reading. (Report to the Medical Research Committee).

"Of all the methods of wound treatment in use, one of us (L. J.) early became a convert to the salt-pack method, with results which were in the majority of cases previously dragging inertly, to gradually resume its normal position and become capable of bearing weight. At first the bearing is imperfect; but afterwards it becomes normal, and the animal this method of treatment a fair trial. The adoption of afterwards it becomes normal, and the animal this method has considerably curtailed a patient's

advocated Carrel-Dakin procedure.

The wounds were generally five or seven days old at least before the patients arrived in Reading: they came with a variety of dressing. They were mostly gunshot wounds, and as such practically always involved muscle, parts of which were dead or dying as a result of the trauma. The tissues were generally dirty, sloughy and purulent, while the surrounding area was frequently redematous. Where the patient was obviously ill, in pain, and running a temperature, it was marvellous to find that in three days after the salt pack had been introduced the temperature fell to normal, and that in a week or ten days' time the wound was a healthy brightred colour and well covered with firm granulations. This result was achieved with the minimum of discomfort to the patient, since after the first packing it was unnecessary to redress it for some five, six, or seven days. In this way rest, one of the great allies in successful healing, was obtained. The fall in temperature, and the mental quietude engendered by the knowledge that no daily dressing was to be looked forward to, contributed to the patient's welfare. He was able to obtain refreshing and normal sleep, and his appetite generally improved, so that many of the vicious circles in

operation were thus broken.

Impressed with the results obtained, we were anxious to know exactly whether the bacterial content of wounds so treated was actually less than before the treatment was begun; in other words, we desired to know if, apart from the claims of the protagonist of the method as to its physical properties in the wound, the salt had any definite and marked bactericidal action either directly on the organisms or indirectly through the leucocytes. To this end a series of observations were made before and after the salt pack had been removed, with, how-ever, disappointing results. The bacterial flora seemed to be as numerous immediately after removal of the salt pack as before it, and the pursuit of this investigation was abandoned owing to pressure of other routine work. Nevertheless, the results qua the healing of the wound were excellent, and, not being able to accept the theories put forward in explanation of its efficacy, we still remained in the dark. That the wounds did well, and got well probably sooner and with less disturbance than by any other method, was a clinical fact beyond dispute. How it did so we could not tell, and this is in accordance with the published statements of all others who employ this line of treatment. Men begin tentatively to try the method, rapidly become converts to its use, and, while acknowledging its extraording effect on wounds, profess ignorance as to the principles which underlie it.

A CLINICAL OBSERVATION.

With this problem still unsolved, it was noticed that while the majority of cases treated with the salt pack did well and followed a more or less stereotyped course towards complete recovery, one or two cases were outstanding exceptions, and recourse was had in these to other methods of treatment. Why some cases, treated in exactly the same way as the others, should not improve formed a new problem until a clinical observation and on this hinges the subsequent work—was made by one of us (L. J.).

It had been noted by all who came in contact with wounds so treated, as it has been noted by all who have adopted this method, that a powerful and most offensive odour was emitted from the salt packed wound. Girling Ball, for example, to quote one, says that the "foul odour is not an indication for changing the plug." Others say that the odour is a signal for change of dressing. No one attempts an explanation except in

period of convalescence, and has, moreover, succeeded that it is due to a "decomposition in the dressings where other methods have failed, including the much themselves." It was noted, however, by one of us (L. J.) in the course of clinical work that one or two of these cases which failed to improve were also devoid of this peculiarly offensive feetid odour, and on recalling one or two previous cases that had not progressed satisfactorily it was remembered that they too were devoid of odour.

On considering together this phenomenon, and its possible explanation, we came to the conclusion that probably in the evil smelling but successful cases there was present a bacterium which was absent from those which did badly and which did not smell. The idea was at first conceived that the salt pack might produce physical conditions in the wound which favoured the growth of this bacterium, and that the good results of the treatment might be directly due to its activity. Taking everything into consideration, it was thought by one of us (R. D.) that the organism present was most likely to be an anærobe, and steps were accordingly taken to determine the presence or absence of such an anærobe or anærobes. A case was chosen from which the salt pack was about to be removed: it had obviously done well under the treatment, and emitted a most offensive odour. From the pus obtained from the wound two anærobes were isolated in symbiosis, one, with round terminal spores, in very small numbers, and the other a bacillus having a large subterminal oval spore. The latter was present in large excess over the round-sporing bacillus.

The meat-broth tube in which the pus had been cultivated obviously contained a mixture, and as that tube showed evidence of active proteolysis and emitted the same offensive odour as the wounds did, it was felt that the organism present in predominant numbers was

responsible.

After two attempts the oval-sporing bacillus was obtained in apparently pure culture, and its morphological and cultural reaction worked out. When introduced into a fresh meat-broth tube and incubated at 37° C. anerobically, in two or three days the characteristic wound odour was emitted, and the meat began to blacken and diminish in volume, indicating active proteolysis. This at once suggested that under suitable conditions for active growth and proliferation it did in the dead wound tissues what it appeared to do in vitro it digested them.

Thus we came to the conclusion that it was the active and probably the sole agent concerned in the cleansing of wounds that did well, and that where it was absent the wound remained refractory to salt-pack treatment and acted as if an antiseptic were being used instead of salt. As the organism, however, belonged to the same group as B. cedematis maligni and B. tetani it was still looked on with suspicion, in view of the universal horror of the presence of anærobic spore-bearers in a

wound.

Experiments were undertaken by one of us (R.D.) from which the organism was found to be non-pathogenic to the animals employed, and from which, further, it could be assumed that the culture medium in which the organism had been grown for varying periods of time apparently contained no elements toxic to those

animals.

Taking these facts into consideration, it was felt by us that it would be legitimate to introduce the anærobe in living culture into a wound which had previously been treated with salt-pack but which had failed to smell or to improve. Such a case presented itself, and after making cultures from the wound to determine the absence of the organism one of us (R. D.) introduced a living culture, while the other (L. J.) carried out his usual method of salt packing. In three days time the patient's temperature had come down, the wound was emitting a foul and characteristic odour, and the patient one paper we have read where the view is expressed was comfortable. In a day or two, after removal of the salt pack the wound was absolutely clean, devoid of all sloughs, a brilliant scarlet colour like fresh beef, and

was covered with healthy granulations.

Since then other cases have been encountered in which the salt bag did not alter the patient's condition for the better and which did not smell. These have been sown in the same way with the living culture after first making cultures from the wound to determine its absence from that wound before sowing. The wound has then been repacked in the usual way and has invariably done well and afforded nasal proof of the active presence of the organism.

ACTION OF SALT PACKS.

We felt that possibly the tight packing with salt bags, together with the subsequent outflow of fluid and the collection of pus that accumulated in the packing, acted rather by reason of its rendering the wound more or less anærobic than by any inherent virtue possessed by the salt, either as a germicide or in view of its supposed lymphagogic action. To determine this point certain cases were chosen, sown with a living culture of the organism and bags containing nothing but an inert substance—sphagnum moss—were introduced in the same way as the salt bags so as to lie in contact with every part of the wound and to fill up the cavity completely.

As we anticipated, the cases so treated followed exactly the same course as those in which the organism had been sown, but where the salt bag had been used. Hence we come to the conclusion that where salt packs are employed they act more by rendering the wound anærobic. Where the organism is absent the salt pack, in spite of the salt and all its supposed lymphagogic action, is useless in cleaning the wound or improving

the patient's condition.

Since coming to these conclusions we have further investigated bacteriologically the flora of wounds that have done well and have smelt, and we have invariably recovered this organism, as we have, of course, done in

the cases which were sown of set purpose.

We reach, therefore, a somewhat paradoxical conclusion—viz., that septic wounds can be successfully treated by sowing in them another spore-bearing anaerobe and thereafter rendering the wound more or less anaerobic. It certainly sounds like rank heresy and yet the evidence we adduce is too strong to be disregarded.

IMPORT OF DEAD TISSUE IN THE WOUND.

It is common knowledge that the danger of a wound, apart from actual destruction by the inflicting trauma, is the entry into that wound of pathogenic organisms. Since Lister's time the destruction of the invading germ has engrossed men's minds, and by means of all kinds of antiseptics it has been sought to combat the affection. Endeavour to achieve this end in this way has within the last two and a half years given way to attempts to fight the evil by using the patient's own protective forces—the so-called physiological method. The recognition that the body must take its part in the struggle and do the necessary work of repair is the merit of the advocates of saline. The advantage, however, does not consist in the action of saline as described by its originators, and that the saline treatment of Wright has had to yield ground considerably since its inception is proved by the increasing frequency with which total excision of the wound is resorted to.

Throughout all these years of observation and work in wound infection the importance of the dead tissues present in the wound has been neglected or relegated to

a secondary place.

It is from this dead tissue as a base that pathogenic organisms elaborate the toxins with which they gradually lower the patient's reistance and from which some of them make sundry excursions into the patient's body.

The toxins may be specific toxins elaborated by the germs themselves or may be formed as a result oft he spitting up of the dead tissue by the vital action of these germs. Destroy the base from which these pathogenic germs derive their supplies and the source of the undermining poison is cut off. Antiseptics do not achieve this. They may kill a few of the pathogenic germs, but even though they eradicate the infection it is only after a considerable time, for their use implies an added trauma to the tissues.

The physiological method does not necessarily inflict a fresh trauma, but leaves the body by its own forces to overcome the infection and to cast off the dead tissue. This takes time, and as long as the basis of supply is left it is a perpetual source of danger. A consideration of the histological features of gunshot wounds has led Bashford practically to advocate immediate excision, impressed as he is by the almost constant presence of anærobic organisms in relation to the dead tissues.

Our knowledge of anerobes is imperfect and chaotic. So many of them being practically saprophytes produce potent poisons as a result of their activity on dead tissue that all are indiscriminately condemned. The organism which we describe here, however, is apparently one of the exceptions. It is apparently non-pathogenic, does not produce toxins inimical to the human body, and does not apparently attack living tissues. It appears to be able rapidly to break down dead tissue without in doing so producing toxins, and this is proved, amongst other things, by the appearance of the shreds of slough remaining in the wound after removal of the salt bag. These look thin, almost transparent, and generally wash away easily under slight irrigation.

This organism can dissect away the macroscopic and microscopic dead tissue in a way that no surgeon's knife ever can, and that without at the same time producing any further trauma. The devitalised tissues are practically all removed in a few days, and with their destruction the breeding ground of the pathogenic germs is destroyed, while the living tissues, relieved of the strain of ever combating the increasing infection while trying to cast off the devitalised tissne, is able to turn its energies to repair—as evidenced by the rapid forma-

tion of healthy, strong granulations.

VICTORIA VETERINARY BENEVOLENT FUND.

A meeting of the Council of the Fund was held at the Royal College of Veterinary Surgeone, 10 Red Lion Square, London, on Thursday, 4th October

Square, London, on Thursday, 4th October.

There were present: Mr. S. H. Slocock, President, in the Chair; Messrs. G. A. Banham, F. W. Garnett; Prof. A. E. Mettam, Mr, Arnold Spicer, Sir S. Stockman, and the Hon. Secretaries, Messrs. P. J. L. Kelland and F. Bullock.

Apologies for absence were read from Messrs. P. J. Howard, H. Sumner, F. L. Gooch, and R. C. Trigger.

The minutes of the previous meeting were confirmed.
The Hon. Secretaries submitted the following

report:—
"As instructed at the last meeting, an appeal has been issued to all members of the Royal College of Veterinary Surgeons. The expense of printing and issuing the appeal was as follows:—

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Clerical assistance		10	0
Postages	6	18	10
Printing and Stationery	£7		

In response to the appeal we have received subscriptions from many members already on the books but in arrears, and also the following new or additional subscriptions or donations:—

puons of donamons.			
Anonymous (D.M.)	£5	0	0
Anonymous (D.M.)	20	0	0
Anonymous (Veterinary Officer)	2	2	0
Anonymous (Special)	1	1	0
Anonymous (Special) J. J. Aitkin, LtCol. A.v.c. J. Baird F. W. Barling J. L. Barling V. A. Bartrum, Major A.v.c. A Rate		10	6
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J. A. Edwards. Capt. A.v.c.	1	1	0
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G. Fordham H. E. Gibbs, Major A.v.c. S. J. Gilbert, Capt. A.A.v.c. M. G. Glynn, Capt. A.v.c. R. A. Gooderidge, Major A.v.c.	1	1	0
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P. Haugh, Capt. A.v.C.	1		
S. E. Hill, Capt. A.v.c.	1	1	0
J. J. Hilliard, Major	1	0	0
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W. E. Ison		10	6
D. S. Jack	1	1	0
E. D. Johnson, LtCol.	1	1	0
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A. G. E. Lalor, Capt.	1	1	0
A. S. Lawrie. Major	1	1	0
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A. S. Leese, Capt. A.v.c.		10	
J. F. Macdonald, Capt. A.v.c.		10	6
A. S. Leese, Capt. A.v.c. J. F. Macdonald, Capt. A.v.c. A. O. McDowell		10	
W P Makinna Cant Ava	1	0	0
W. R. McKinna, Capt. A.v.c.	1	0	
H. S. Mosley, LtCol. A.v.c.	1	0	0
B. J. W. Nicholas, Capt. A.V.C.		10	6
W. R. McKinna, Capt. A.v.c. H. S. Mosley, LtCol. A.v.c. B. J. W. Nicholas, Capt. A.v.c. A. F. O'Dea		10	6
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H. A. Reid, LtCol.	1	1	0
F S Ringwood	-	10	
W. D. Rees H. A. Reid, LtCol. F. S. Ringwood W. N. Rowston Major A. V.C.			
W. N. Rowston, Major A.v.c. C. J. C. Ryan, Capt. A.v.c. H. T. Ryan, Major A.v.c. A. H. Santy		10	
C. J. C. Ryan, Capt. A.v.c.	2	0	0
H T. Ryan, Major A.V.C.		10	6
A U Sonty		10	
A. II. Dalley	-		6
C. H. Sheather, Capt. A.v.c.	1	1	0
J. H. Sheppard	1	1	0
C. H. Sheather, Capt. A.v.c. J. H. Sheppard C. W. B. Sikes, Capt. A.v.c.	1	ī	Õ
A I Chican			
Arnold Spicer	10	10	0
T. T. Taylor, Capt. A.v.c.		10	6
G Tillyard Major A.V.C.	1	0	0
T II White Cast 1370			
T. T. Taylor, Capt. A.v.c. G. Tillyard, Major A.v.c. J. H. White, Capt. A.v.c.	1	1	0
T. W. W. Wright, Capt. A.v.c.	1	0	0
T. W. W. Wright, Capt. A.V.C. T. Dunlop Young, Major A.V.C.	1	0	0
	000	10	0
	£82	19	0

This total of £82 19s. means new money, though not all of it is available for current reiief, some having been given as donations. The net result, however, is that up to the present £68 is added to the Fund. A pleasing

feature of this result is that it includes 30 new Bankers Orders.

Collecting boxes have also been obtained, and a few have already been distributed. They are available for any member who may desire to obtain funds for the Society by this means.

Mr. Wright, clerk to the late Mr. Shipley, has now forwarded to the office all the papers and documents relating to the Fund which remained at Yarmouth, and we owe to him an expression of thanks for the interest he has taken in this work.

The balance at the bank at the present moment is £153, but of this sum about £35 is from donations, and that amount is not available for current relief but, in accordance with the bye-laws, must be invested. This leaves us with £118, and the total sum payable to the recipients already on our list for the remaining three months of the year is £121 1s. 6d., not to mention petty expenses, postages, etc. It will be seen, therefore, that the subscriptions received do not yet amount to the sum required to the end of the year.

Moreover, there are new applications for relief, several of which are extremely deserving. The Fund, therefore, still needs further assistance, and we count on the continued generosity of the profession to see that our resources are maintained so that we may not have to refuse any case of genuine need."

The Secretaries' report was received and approved and it was resolved that the best thanks of the Council be accorded to the new subscribers and donors.

Cases. The Council proceeded to deal with the cases down for consideration.

No. 25 (Mrs. Y.). It was reported that this widow was ill and unable to leave her bed. Her young son earned 12/6 per week. It was resolved to increase the grant from the Fund to 10/- per week for the present

quarter.

No. 27 (Mrs. B.). This widow, aged 80, now receives an old age pension. It was resolved that the grant be

reduced from 10/- per week to 5/- per week.

No. 29 (Mrs. C.). A report was received in this case, and it was decided to discontinue the grant

and it was decided to discontinue the grant.

No. 31 (Mrs. M.). The Secretaries reported that this recipient, who has an invalid husband and two young children, was now earning 30/- a week in a munition factory. It was resolved to reduce the grant to 5/- per week.

No. 32 (Mrs. R.). A widow, four young children, no income. A report by Mr. Howard was received in this case, and it was resolved that a grant of 7/6 per week be made.

No. 33 (Miss W.). The Secretaries were instructed to make further inquiries in this case.

No. 34 (Mrs. G.). A widow, aged 69, having two sons. The Secretaries were instructed to inquire why the sons could not contribute to their mother's maintenance.

In cases Nos. 4 and 12, the Secretaries were instructed to make further inquiries and to report to the President. It was resolved that in the remaining cases the usual grants be continued.

Revision of Bye-laws. The Secretaries submitted proposals for the reconstitution of the Council in order to make it as representative as possible of the profession. The scheme submitted was approved, and the Secretaries were instructed to submit a draft of revised byelaws containing these proposals for consideration at the next meeting.

Accounts for payment. An account for the provision of collecting boxes, £5 3s. 9d., was ordered to be paid.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

F. G. Ashley,	Dalston, Cumberland	£1	1	0
J. J. Aveston,	Lieut. A.v.c.	1	1	0
F. Richardson,	Capt. A.v.c.	1	1	0
R. C. Wheeler,	Capt. A.v.c.	1	1	0
Previo	ously acknowledged	886	11	0
				_

£890 15 0

ARMY VETERINARY SERVICE.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Oct. 12. REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Capt. G. N. Tomlinson is dismissed the Service by sentence of a General Court-Martial (June 7).

Capt. (temp. Maj.) C. G. Saunders, Can. A.V.C., to be Dpty. Asst. Dir. of Vety. Servs., and to retain his temp. rank whilst so empld., vice Maj. (temp. Lt.-Col.) A. B. Cutliffe, Can. A.V.C. (Aug. 10).

Oct. 17. Temp. Lieuts. to be temp.Capts:—J. McAfee (July 1); M. A. Murphy (Sept. 1); S. A. Hill (Sept. 22).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Capt. (temp. Maj.) D. R. C. Tennant relinquishes the temp. rank of Maj. on ceasing to be empld. as A.D.V.S. (Aug. 2).

The notification which appeared in the Gazette of Aug. 7, regarding Maj. E. M. Perry, F.R.C.V.S., is cancelled.

From a Correspondent.

We are glad to be informed that Sergt. Maj. Bernard McSherry, of the Regular Service Army Veterinary Corps, has been granted a Commission in the Infantry of the Line, and is now in command of a platoon of his regiment—the 2nd Manchesters, in France.

Though the Army Veterinary Service is sorry to lose Lieut. McSherry, it is proud of one of its regular soldiers

who is determined to get on, and his career will be watched with the greatest pleasure.

An officer, A.V.C., who knows him well speaks of him as "a real live young man, straight as a die, determined, with a great power of command over men; and just the

very man for leadership in the field."

Commissions in the Line are not, as a rule, granted to serving N.C.Os. of Departmental Services, and thoughlrefused to Lieut. McSherry at first, he applied to be reduced to private so that he could transfer to a combatant unit, and then work up to a commission. Instead, however, he was given a month's trial with a platoon of a Line Battalion in the field, and, proving a success, he was selected for a commission, and sent to a Cadet School for training.

The A.V.C. Comforts Fund.

Dear Sir,—I have pleasure in again sending you list of subscriptions received by me for the A.V.C. Comforts Fund for favour of publication, if possible, in this week's issue. I would like to convey, on behalf of the Committee, very grateful thanks and appreciation to all those supporters on this list who have so energetically collected and interested others for benefit of the Com-

forts Fund. We wish to convey special thanks to Mrs. Alison Brown, Invergordon, for the most acceptable donation forwarded by her, received from the "Easter Ross Farmers Club," which sum is a share of their "Free Gift Sale"—which reached the splendid total of £2230, and is now being divided among war charities. May I suggest to others who have influence with Farmers Clubs and Free Gift Sales that our A.V.C. Comforts Fund would very gratefully receive further donations of this sort from those who are connected with agriculture.—Yours truly,

ADELAIDE M. MOORE.

20 Parsifal Road, Hampstead, N Oct. 9th.	.W. 6.		MI.	Мо	OKI	5.
Subscriptions received since lis	st pub	lish	ed	July	21	
per Mrs. McKinna and ladies: Th	7.7					
Congregational Sewing Party		5411	CIC	1	1	0
Mrs. Bolton	,			2		
per Mrs. Alison Brown, Invergor	don:				U	U
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ceeds of "Free Gift Sale"		-, P		£50	0	0
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Veterinary Hospital, B.E.F.				12	3	10
per Maj. H. E. Gibbs: No. 8	Vete	rina	rv		•	
per Maj. H. E. Gibbs: No. 8 Hospital, B.E.F.			3	5	0	0
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Mrs. Eleanor Edwards				5	5	0
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Ireland:			•••			
Col. J. Reilly, A.v.c.	£3	0	0			
Mrs. S. Bailie	2	2				
Mrs. Geo. Newsom	2	2				
Mr. John H Carr	2	2	0			
Mrs. J. T. Clinton	2	2	0			
Mrs. R. B. Freeman	2	2	0			
Capt. C. J. Clibborn, A.v.c.	2	2	0			
Capt. W. Scott, A.v.c.	2	0	0			
per Mrs. Alston Edgar, Woo	l-					
mere	2	0	0			
Maj. J. K. Grainger, A.v.c.	2	1	0			
Mr. F. C. Relf	1	1	0			
Mr. W. S. Wilkinson	1	1	0			
Mr. John Barry	1	1	0			
Mr. J. J. Ross	1	1	0			
Mr. T. R. Mulcahy	1	1	0			

Mr. T. R. Mulcany
Capt. W. A. Potts, A.v.c.
Capt. J. Purdy, A.v.c.
Capt. A. Munro, A.v.c.
Capt. F. Lindsay, A.v.c.
Capt. C. Cartwright, A.v.c.
Mrs. J. Hughes
Capt. R. H. Mallon, A.v.c. 1 1 1 0 Capt. B. H. Mellon, A.v.c. Capt. Lowther, A.v.c. 0 1 0 0 000 Mr. Chris. Rea 0 Lieut. M. Cahill, A.v.c. Mr. Fred. W. Hart 1 0 1 0 Mrs. Ryan Mr. S. Holmes Mr. J. R. Hunt 1 0 1 0 0 10 6 Capt. R. D. Reavy, A.v.c. Mr. E. Wallis Hoare Mr. A. Dobbyn 10 6 10 0 10 0 Mrs. Hayes 10 0 Lieut. J. A. Harmer, A.v.c. Mr. W. C. Patrick 10 0 10 0 Maj. L. L. Dixson, A.v.c. 6 0 Mr. Daveron

Dear Mrs. Moore,—We had a very successful Free Gift Sale in connection with the Easter Ross Farmers Club, Mrs. Brown wrote to ask for a donation for the A.V.C. Comforts Fund. I was at the meeting last Friday, when, as you will see from enclosed cutting, they gave £50. My wife is presently on holiday, but perhaps she has written to tell you. They may send you the cheque direct, or if they send it here we will forward it.

Yours faithfully,

Invergordon, Oct. 3rd.

JOHN BROWN.

£2230 0 0

"A special meeting of Easter Ross Farmers Club was held in Tain on Friday afternoon, the president, Major Cuthbert, D.S.O., in the chair. Out of the sum of £2450 raised, as already reported, at the recent Free Gift Sale, the following sums were allotted to the war funds named :-

Red Cross Central Fund (Scottish Branch)	£1000	0	0
" " (County Branch)	300	0	0
X-Ray Ambulance Car	100	0	0
Seaforth Association	100	0	0
Lovat Scouts	50	0	0
Ross Mountain Battery	50	0	0
Navy, for Ross-shire men	140	0	0
Army Veterinary Corps Comforts Fund	50	0	0
Prisoners of War Fund	140	0	0
Parish Work Parties	90	0	0
Dingwall Tea Rooms	40	0	0
Kyle Tea Rooms and Rest Rooms	50	0	0
Stornoway Tea Rooms and Rest Rooms	50	0	0
Soldiers' Tea Rooms in Tain	10	0	0
Soldiers' Rest Rooms in Tain	20	0	0
Soldiers' Tea Rooms in Alness	10	0	0
Serbian Ambulance Car	30	0	0
			_

Cruelty charge-dismissed.

Total already alloited

Before the Wolverhampton county magistrates, on Monday, 8th inst, Alfred J. Jeffs, of Tempest Street, Wolverhampton, and Arthur H. White, of Grimstone Street, Springfields, were charged with causing ill treatment to a horse; and Harry Millington, of Nurton, was charged with the actual cruelty to the animal. Mr. W. A. Foster appeared to prosecute on behalf of the R.S.P.C.A., and Mr. S. R. Rhodes defended.

Mr. Foster said that some time ago, it appeared, a Mr. Jordan sent a horse to Mr. Jeffs' establishment in Tempest Street. The animal was very lame, suffering from ringbone on the off fore-leg, and was absolutely unfit for any kind of work. Mr. Jeffs, it seemed, made up his mind to sell it at a repository, but Mr. White suggested that the better thing to do would be to send it to his farm at Pattingham, where it could be turned out for a time, and if it recovered he would purchase it. Mr. White, on September 12th, sent his boy, Millington, to Mr. Jeffs' premises, and although the horse was obviously unfit to travel, it was walked in the direction of Pattingham. At Compton, Police-constable Bakewell stop-ped it. In the words of Bakewell, it was simply hobbling along. Replying to questions, the lad replied he knew the horse was lame, but he was told to take it to a farm at Rudge. He was instructed to walk it quietly and not to trot it.

Evidence supporting the prosecution was given by P.-c. Bakewell, Inspector Slattery, and Mr. Cartwright, Veterinary Surgeon. The last-named, while declaring that the horse, when he saw it first, was unfit to travel, stated that since it had been in a field it had become

horse himself before it was sent out, and if it had been only slightly lame, he should have certified it fit to go.

Mr. Rhodes, for the defence, urged that neither Mr. Jeffs nor Mr. White saw the horse before it was taken away by the boy.

The case was dismissed.—Express and Star.

Herb v. Extract-a successful experiment.

Mr. H. Leeney, M.R.C.V.S., writes in The Farmer and Stockbreeder, pointing out that the want of Thymol for administration to colts suffering from red worms, led him to ask a farmer to try the plant, since the active principle could only be obtained at a high price and in small quantity. The farmer did so, and reported lately that the colt he tried it upon was a wasted skeleton at the time, but began to improve immediately, and completely recovered, and is now "a bonny colt." Mr. Leeney remarks that owners of young horse stock will be interested in the farmer's account of how he administered the home-grown medicine.

"The plant was given in food every other morning for three weeks, always fasting, or rather, I should say be-fore giving the food (first feed) in the morning. I simply took a bunch of the herb and cut it with scissors, stalks and all, into short chaff, the shorter the better, about a quarter of an inch long, then mixed one small handful with a small one of sharps and bran, and watched the colt eat it. If he refused, or started nosing it about, I took it away, and offered again when more hungry. After first few times no difficulty in this direction. The

animal is a Welsh cart colt.'

This, says Mr. Leeney, is a valuable contribution to our veterinary knowledge, forced upon us by necessity, and reminding us of our neglect of home remedies and the waste of money in buying foreign products while we have what is wanted at our own back door.—East Anglian Daily Times.

Sheep disease—an enquiry.

A friend writes me from Rio de Janeiro concerning a disease affecting sheep, known locally as "Papeiro." The translation of this Portuguese word is Goitre or Wen. The chief symptoms are swelling of the glands of the throat: the disease is epidemic in character and as many as 70 % of the affected cases prove fatal.

I should esteem it a favour if any brother professional can give me any information with reference to the disease, or mention any book that will enlighten me on the subject. INTERESTED.

"As others see us."

There are several journals which lay themselves out to supply this particular brand of moral tonic: the following—sent us by an unknown correspondent—is not from either of those, but from *The Farriers' Journal*.

THE VETERINARY COLLEGE AND THE TRADE.

"In our August issue appeared an advertisement for a Foreman Farrier required by the Royal Veterinary College of London. We have been taken to task for publishing the same as the wages offered were lower than the standard rates. Quoting from the letter of one of our correspondents, 'These people were prepared to accept work at an undercut price some months ago and it was through the joint action of both associations that they were prevented from so doing." It is obvious that very nearly sound. That showed that the practice of turning out was correct. Apart from the lameness the horse was in good condition. Had witness seen the Neither being desirable, with these sentiments we en-

tirely agree. Veterinary Surgeons should set an example to raise the trade and not lower it. Experience in the past has proved that the Veterinary profession has not done what should be expected of it in this way, and, whilst Farriers are prevented from interfering with the work of Veterinary Surgeons, there is nothing to prevent a Veterinary Surgeon from calling himself a Farrier. In our opinion, though they are closely allied, at the same time, they are two distinct professions, and we feel very strongly that the time has arrived when compulsory Registration for Farriers should come about. The Veterinary profession has very much advanced during recent years and their energies can be fully occupied without interfering with farriery. At the same time our profession has advanced, and anyone attending, during the last few years, the principal shows, would see that shoeing has become a fine art as well as a science, and while we would like to say that we are making every endeavour as an Association to raise the standard of the Trade, to better the social position of the farrier, and to obtain a fair rate of pay for him, we feel that the education of the farrier should be of the highest possible standard as absolutely necessary. We are also of the opinion that such a position as that of Foreman Farrier should be one to which a man should look forward to as being one of the best and most important posts which he could reach, and should consequently be better paid, rather than be offered at a wage lower than in an ordinary public shop. There is always room at the top.

Personal.

ROMNEY—KENDALL. On Oct. 13th, at St. John'e Hampton Wick, by special licence, O. O. Romney, last, A.I.F. of Brisbane and Stockholm, to Lilian Flora Kendall (Dolly), only daughter of the late F. W. Kendall M.R.C.V.S., and of Mrs. A. A. Wilson, London.

OBITUARY.

JAMES THOMSON, M.R.C.V.S., Fawsyde, Bervie, Kincar-Graduated, Edin: April, 1863.

Mr. Thomson, an octogenarian, was for over half a century associated with the City and County of Aberdeen. For many years he had the honour of acting as veterinary surgeon in connection with the Royal herds at Balmoral and Abergeldie. He came very prominently before the public in the movement in the sixties for stamping out rinderpest, and later he was called upon to deal with pleuro-pneumonia and foot-and-mouth disease.

ALEX. COCHRANE, M.R.C.V.S., Dundee.
Glas: April, 1881.

Mr. Cochrane died 7th inst., aged 66.

R. W. THOMPSON, M.R.C.V.S., Portadown.

Edin: Nov. 1905.

Mr. Thompson died at his residence, Church Place, Lurgan, on Oct. 7th, 1917. He was eldest son of the late J. A. Thompson, F.R.V.C.S.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

			Anth	rax		ot- Iouth ase.	Glan	ders.†		sitic nge. ‡		Swine	Fever.	
Period.		Ont- Ani- breaks mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.			
GT. BRITAIN.	Week	ended Oct	. 6	1	2				5	7	8	2	25	6
Corresponding week in		1916 1915 1914		8 4 11	10 5 11			2 2 1	4 3 1	11 12	41 26	2 1	57 45 115	37 125 692
Total for 40 wee	eks, 19	17	.,	349	398			22	41	1972	3769	406	1819	788
Corresponding period in	{	1916 1915 1914		408 446 568	481 503 623	1 22	24 108	43 40 82	105 71 250	1769 644 1530	3991 1391 2642	197 164 155	3593 3208 3272	8805 14045 31760

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. (1) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :- London 5 Board of Agriculture and Fisheries, Oct. 9, 19:7 Excluding outbreaks in army horses.

IRELAND, Week er	ded Oct. 6							Outbreaks	10	3	15
Corresponding Week in	1916 1915 1914			:::				2 1 1	9 5 2	3 4 2	32 20 3
Total for 40 weeks, 1917		3	5			1	1	40	302	188	1094
Corresponding period in -	1916 1915 1914	3 1 1	7 1 1	76	957	 1	3	56 59 68	326 319 409	259 197 163	1513 1125 845

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 8, 1917.

— The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection Note.—The figures for the Current Year are approximate only.

It must be noted that these Returns are for week ending Oct. 6-crowded out last week.

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1529.

OCTOBER 27, 1917.

VOL. XXX.

UNQUALIFIED PRACTICE.

At the last Council meeting the President stated that financial reasons are now forcing the Council to abstain from all but the most imperatively necessary prosecutions. In other words, some men who could be and ought to be prosecuted are not proceeded against. Regrettable as this is, it is not the most serious difficulty confronting us in connection with unqualified practice. We all know that a from the Insurance Company." great deal of unqualified practice against which the Council has no legal power to act can be and is being carried on. Perhaps everyone does not realise how greatly unqualified practice as a whole, including the latter unassailable form, is likely to in-

At present, the paucity of veterinary surgeons in civil life has naturally led to an increase in unqualified practice. For the moment this does not seem serious; for most of the few qualified men still in civil practice have more than enough to do. It will become serious when a good many veterinary surgeons now in the army are set free, and are trying to re-establish themselves in practice. In addition, it is more than possible that the existing unqualified opposition will then be seriously reinforced from another quarter.

It is probable that some at least of the N.C.O's and men of the A.V.C. will attempt unqualified practice; it is possible that a great many may do so. Those who do, if they are men of even average capacity, are likely to prove formidable opponents. All of them will have had Army training in practical veterinary work; and many will have had considerable experience of both injuries and disease. The more educated and intelligent amongst them will probably be more dangerous opponents than the old registered men, some of whom, despite their lack of college training, were by no means to be despised as clinicians.

Taking these factors together, it is easy to see that the question may become more flagrant than it ever has been. It will then be recognised as imperative that the Council be supplied with funds to act against so much of it as can legally be stopped. Surely the same thing ought to be regarded as essential now. When we realise how greatly unqualified practice is likely to increase, and remember how much of it will always be within the law, we should not allow its illegal forms to gain a footing The Council are ready to do all they can against the latter; but the profession must first provide the funds to do it.

STRUCK BY LIGHTNING.

These cases are not infrequent incidents in country practice, and their explanation is not quite so easy as it sometimes appears.

Some time in last autumn a farmer client called

This appeared to be a very convenient arrangement to the owner of the animal. My reply was: "I must first see the carcase and, if necessary, make a microscopical examination of the blood, and get some notes of the facts connected with the case." One thing I had to make sure of—had there been lightning recently in the district?

I visited the farm about noon next day—I could not attend before. The animal had been dead about forty-eight hours when I saw it. I found it in a field lying on its side with the fore-legs turned back under, the head protruding, rigid, no discharge of blood from the nose or rectum.

The udder—it was a first time heifer in calf, small, and pale pink in colour (in anthrax this is usually of a bluish-red colour), rather angry-looking, a little froth from the mouth, body a little tympanitic. It was lying close to a ditch, and there were signs of the soil having been disturbed just round the spot where the carcase lay. In the same field there were ten others, and near by was a large beech tree shadowing that part of the field.

The weather was very hot with bright sunshine, and had been so for several days. On the afternoon and night prior to the animal being found dead there had been a very violent display of lightning. Sheet lightning, very vivid and constantly repeated throughout the night. The suggested cause of death seemed feasible.

There were conditions that indicated possibly Anthrax, Malignant cedema, Yew poisoning, or Enteritis. I could not detect any anthrax bacilli in the blood from the ear, and when I made a postmortem examination afterwards, the spleen was normal. The rumen was free from yew or any that could be called poisonous vegetable matter. The carcase on the whole presented conditions similar to those exhibited in inflammatory cedema or atypical quarter-ill.

After obtaining all the evidence from the autopsy and the history of the case, I gave a certificate that the animal was struck by lightning which had caused its death. There was no other death at the farm, nor did any of the other ten show illness. I acted for both the owner and the Insurance Company. The Company thanked me for my report, and paid the claim without demur.

When animals are killed by lightning, frequently the posture of the dead animal is the most remarkable feature.

The first case I met with, in 1869, was that of storm; they were found dead after the storm. They were in different postures—some on their sides, some on their backs, some kneeling, some kneeling on one leg, others apparently feeding; no marks of fire on any of them; no tree very near. The Insurance Office, whilst not admitting liability, paid as an indemnity the sum of £3 a sheep to the owner. From this date other offices did likewise, and now it is a regular item included in a farm policy against loss of animal life as a result of fire.

In one case a horse was out in a thunderstorm in a carriage, one of a pair. The lightning played round, the horse became very excited, and could be held only with great difficulty. It reached the stable yard, but, on being taken out of harness and put into the box, dropped dead.

In another case, a cow was found dead with one fore-leg stretched out, one fore-leg bent back under; one hind-leg straight back, one underneath the abdomen. The leg stretched out had a branch of a tree on it, broken, in my opinion, by the same force that killed the cow.

In another case the death was actually witnessed, and here the cow was under an elm tree. The tree was struck and the effect shown from top to bottom. The cow was struck on the poll; the fire had apparently run down the neck as far as the withers, then down the left fore-limb into the ground. In these cases there was no doubt as to the cause of death, it was evident enough; it is in the other cases where such prominent features are absent that the difficulty of diagnosis comes in.

In another claim made on a Company, I was asked to investigate and report. I felt doubtful, and to help me to decide, I applied to the Meteorological Office, and found that no lightning of any kind had been recorded during the whole month in which the animal was said to have been struck. I did not give a certificate that the death of the animal was due to lightning stroke, and the claim fell through.

Post-mortem the animals do not, in my opinion, decompose very rapidly. The death is instantaneous; no ante-mortem changes in the tissues have taken place. The eye presents an open look, not that dull appearance usually shown in death.

P. G. Bond, M.R.C.V.S. Plymouth, April, 1917.

At the seventh annual autumn show of pedigree shorthorns at the Agricultural Hall, Penrith, on Friday, 19th inst., ninety-nine females sold for £6961 10s., average over £70, and 108 bulls realised £6528 18s., average £60 9s. The highest individual prices were 400 gs. and 260 gs. for bulls, and 200 gs. and 140 gs. (twice) for cows or heifers. These are the highest prices ever recorded at a North of England sale.

THE PREPARATION OF HORSE FODDER.

The preparation of foods is included in the syllabus of examination in hygiene and dietetics prescribed by the Royal College of Veterinary Surtwenty sheep killed. They were all right before the diplomas granted by the Universities of Manchester geons; and the examiners for the post-graduate and Liverpool also demand a knowledge of it from candidates. Students during their course should be shown examples of the various types of apparatus used in mixing and preparing foods that exist on the premises of contractors, railway companies and at municipal depots. Failing such demonstrations. the student has the alternative of studying the subject from the catalogues of makers of this class of machinery, but the benefit derived from this class of study is very poor in comparisod with seeing the actual working and manipulation of the apparatus.

At the present time the public are devoting very much thought to food, and the veterinary profession must not only keep abreast of the knowledge served up in the daily press, but must possess considerable information about foods in excess of that supplied to lay readers.

In passing, the present writer thinks that the Ministry of Food will not have a complete staff until it has one or more veterinary advisers. The feeding of the domesticated animals is of considerable importance and has been the subject of much research; in fact one would be kept very busy, although not very profitably, if all the bulletins and leaflets on experiments connected with feeding issued by agricultural colleges were read. veterinary colleges do not issue reports on these matters is an enigma.

The following notes give a description of an elaborate apparatus that was supplied to the Corporation of an English town.

The cost of the apparatus, which included shaftting, a 20 h.p. motor, a friction clutch for use with sack hoist, and a dust chamber to prevent dust flying about the premises, was £388 (in 1911). The apparatus was manufactured by Messrs. Bamford, Uttoxeter.

The hay. This is chopped in an ordinary chaff cutter and is then distributed over a fine perforated sieve, with which is connected a powerful suction fan, whereby all dust, dirt and deleterious matter is extracted, and is conveyed to a dust collecting chamber on the ground floor. The chaff, after being freed from dust and other matter, is conveyed, by means of a revolving inclined spiral conveyor, over a series of sieves of suitable size and a perfectly even sample of chaff is produced.

The danger of breaking the cutter is reduced to a minimum by means of an ingenious stop motion, which throws the cutter out of action immediately it is over fed. The sifter is characterised by an entire absence of shaking riddles, a smooth rotatory motion being employed instead, thus adding considerably to its life and efficiency.

Grain producing machinery. The various grains are put into wooden bins located on the floor in

such a manner that they can be filled with the least amount of labour, and placed opposite to the various mills. Each bin is provided with an elevator of the bucket type which serves its respective mill with the correct quantity of grain.

The author has found that the horse supports intra-jugular injections of solutions of this salt in boiled water in the proportions of 2, 3, and 4 to 1000 very well. The one precaution to be taken is to inject the iliquid slowly, in small quantities,

The mills are of strong construction, fitted with safety springs which obviate the danger of breakage through stones or other hard substances passing between the rollers while in motion.

Three mills—one each for oats beans and maize are, as mentioned above, supplied from their respective bins. Those for oats and maize are of the unequal roller type.

The beans are split in a mill provided with conical kibbling plates and any desired sample may readily be obtained by means of a regulating screw.

On the same floor line as these machines is a bran bin fitted with an agitator, the object of which is to prevent blockage and to ensure a constant and even flow.

Grain mixer. The crushed grains fall from the various mills into a spiral conveyor placed underneath the floor of the room in which the mills are fixed, and on passing from one mill to the other become thoroughly mixed whilst carried along to meet the sifted and cleaned chaff and bran, when the whole fall together into the mixer.

Fodder mixer and bagger. This apparatus completes the cycle of operations. By its aid the chaff, grains, and bran are intimately mixed and from its mouth the fully prepared food is bagged, and if desired also weighed. Through the medium of a two-way flap valve, operations may be carried on without interruption as long as necessary.

The whole of this plant is put into operation simultaneously, and in the hands of three men, one to attend to the cutting, another the mills, and the third to do the bagging and weighing in the room room below, 26 cwt. of well prepared food can be turned out per hour.

F.R.C.V.S.

ABSTRACTS FROM FOREIGN JOURNALS.

LOCALISED TETANUS TREATED BY OXIDOTHERAPY.

In June, 1917, Belin made a further communication to the Central Society of Veterinary Medicine upon the subject of Oxidotherapy. Since his previous communication in July, 1916 (V.R. p. 164, last week) he has continued to employ oxidotherapy in all infectious diseases, whatever their nature, so long as manifestations of toxamia were present and the affection had no tendency towards a spontaneous recovery. Among the cases he treated thus was one of very serious tetanus.

On Feb. 13, 1917, a horse arrived at one of the centres of evacuation of the French army affected with mange of the head, neck, and anterior part of the body. From the following day the animal presented very marked symptoms of tetanus. He drank with difficulty and was unable to eat. Treatment by oxidotherapy was decided upon, and Potassium permanganate was used for the purpose.

The author has found that the horse supports boiled water in the proportions of 2, 3, and 4 to 1000 very well. The one precaution to be taken is to inject the liquid slowly, in small quantities, abruptly expelled from the syringe, in order to save the venous endothelium from the action of the drug as much as possible. Most frequently these injections cause no resistance on the part of the horse. It is necessary to carefully avoid passing the least drop of the solution into the connective tissue; for this produces a voluminous inflammatory lesion, which is not in itself alarming, but is very prejudicial in the case of successive injections. On this account it is advisable to first introduce the needle alone and afterwards unite it to the syringe by means of a rubber tube. After the injection the tube is removed, some drops of blood are allowed to flow from the needle, and then the needle is withdrawn. When successive injections are made each day, lesions of aseptic phlebitis are provoked, but are of slight severity, and recover naturally. This is a rather serious inconvenience, but of little importance when it is a question of saving the life of the animal.

The following is a day-to-day record of the author's case of equine tetanus:—

Feb. 16. The search for the point of entry of the bacillus only revealed a harness wound in the shoulder region. This was perfectly dry, but was nevertheless carefully disinfected. It was not possible to shelter the horse, which had to be tied to a wall and exposed to snow, mud, and severe cold. An intravenous injection of 10 c.c. of a 3 in 1000 solution of potassium permanganate was given.

Feb. 17. 20 c.c. of a solution of the same strength was given. By the evening a slight improvement was manifested; the animal drank well and the membrana nictitans covered less of the eyeball.

Feb. 18. 30 c.c. of the solution injected.

Feb. 19. The dose was raised; 40 c.c. was injected. The horse was clearly better. It was only possible to give him hay and oats, which he ate very well. A provisional shelter could now be had, which protected him from snow, but not from cold and mud.

Feb. 20th, 21st. 50 c.c. was injected each day. The injections were then discontinued. A phlebitis in the left jugular region, of 4 to 5 centimetres in extent, was observed. At this time the movements of the neck were fairly facile. The mange forced the horse to rub himself, without any appreciable difficulty in doing so. The membrana nictitans now showed no abnormal displacement, the ears had lost their early rigidity, all trismus had disappeared, and mastication and deglutition were executed normally. The only abnormalities that remained were the rigidity of the body and limbs, and a little excitability. The improvement continued on the following days, becoming accentuated, and on March 10 the horse was completely cured.

This result is not less impressing than those which Belin has obtained in his laboratory experiments, in the course of which he succeeded in restoring its normal play to the contracted limb of

a tetanic rabbit by the action of substances profoundly different from the chemical point of view, but having the single common character of oxidising power. It therefore appears that the destruction of the toxins by oxidisation in vivo which Belin has demonstrated, is of supreme importance not only in the treatment of tetanus but also in that of infectious diseases in general. Belin will demonstrate this in subsequent notes, when he has collected a sufficient number of facts.

But—and Belin insists especially upon this—it is indispensable to commence with oxido-therapy from the beginning of the illness. The toxins are only oxidised while they are free. Belin has had only two unfortunate results, and both followed on treatment having begun late; in these cases a great quantity of toxins are fixed in the nervous centres, and oxidising agents, like other remedies, are impotent against them - (Revista de Higiene y Sanidad Pecuarias).

HÆMORRHAGE AND RUPTURE OF THE EQUINE LIVER.

Cadeac has published an article upon this question (Jour. Med. Vet. et Zoot.). The action which the toxins elaborated in the course of chronic diseases of the bronchi or lungs exercise upon the hepatic cells and the vessels of the liver is a curious study. A horse which has suffered from strangles and retains a chronic bronchitis as a relic of the former affection is liable to die from a rupture of the liver. Fatty degeneration and amyloid degeneration are produced, and these alterations are the prelude to hamorrhage and rupture.

When these internal causes have debilitated the liver, mechanical causes or accidental traumatisms produce rupture and hamorrhage. But, generally, these degenerations are very slow in their evolution; and the affection of the respiratory passages only culminates in the rupture of the liver at the end of many years. The following case is a typical one.

A black entire horse, four years old, contracted strangles and afterwards retained a cough which resisted all treatments that were tried, viz., fumigations, potassium iodide, and arsenical solution. Treatment was not persisted with; because the animal, despite the cough, was very vigorous and did excellent work, did not show the least indisposition, and did not lose a day's work until twelve years old. An accident precipitated his end. An entire horse, which had got loose in the stable, leapt upon this one, compressing him between the fore limbs as in copulation, while the black horse horse struggled to disengage himself. Afterwards the animal refused food and was dull. The temperature was slightly elevated (100.7° F.), the cardiac movements were violent, the extremities cold, and the pulse weak. The alarming symptom of extreme pallor of the mucous membranes, suggesting internal hæmorrhage, was also noticed.

The animal was kept quiet, external revulsive treatment was adopted, and sulphate of soda was given. The next day there was a slight improvement, which persisted till the third day; but on the fourth day the horse died suddenly.

At the post-mortem examination a gush of blood escaped from the abdominal cavity. All the organs were healthy, except the liver: this was considerably hypertrophied, weighed about 90 lb., and appeared voluminous and deformed. Its capsule was ruptured about the anterior aspect of the left lobe in a length of from ten to twelve inches; and the ruptured part was covered with blood-clots and with parenchymatous débris reduced to a paplike condition. Other ruptures, less important, were encountered in different portions of the organ.

This observation, according to Cadeac, demonstrates the influence of chronic bronchitis upon the liver, "which frequently undergoes amyloid or granular fatty degeneration which predispose to its rupture."—(Revista de Veterinaria Militar.)

W. R. C.

Royal College of Veterinary Surgeons.

SPECIAL MEETING OF COUNCIL.

A Special Meeting of Council was held at the Royal

College on Friday, 19th October, at 4 p.m.

There were present: Messrs. G. A. Banham, W. F. Barrett, W. J. Mulvey, T. S. Price; Prof. E. S. Shave; Mr. H. S. Slocock, and Sir Stewart Stockman.

In the absence of the President Mr. Mulvey was voted to the chair.

The Secretary announced that letters of apology for absence had been received from the President, Dr. Bradley, Messas. Carter, Coleman, Dunstan, McCall, J. McKinna, Maj.-Gens. Pringle and Thomson, and Mr. Wilson.

The minutes of the previous special meeting were

taken as read and confirmed.

Bye-law 61. Mr. BARRETT proposed that the addition to Bye-law 61 made at the previous Council meeting be confirmed. Prof. Shave seconded, and on being put to the meeting the resolution was carried. The Bye-law now reads as follows:-

Bye-law 61. "Every candidate who desires to present himself for the first time for the A or First Professional Examination must, not less than three months before the commencement of the examination, submit to the Council of the Royal College of Veterinary Surgeons a certificate or certificates to the effect that he has passed a recognised examination in General Education.

Bye-law 62a. The proposal to insert after the words "Royal College of Physicians" the words "or a Degree or Diploma in Agriculture granted by a University, was then considered. A letter was read from Mr. Wilson in which he asked whether this meant that a Degree or Diploma granted by a foreign university would be accepted. After discussion, and on the advice of the Solicitor, it was resolved to defer the consideration of the matter in order to allow for the insertion of the words "in the United Kingdom" after the word "University"

This concluded the business of the meeting.

SUBSCRIPTIONS TO R.C.V.S

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

O. S. Broadhurst, Capt. A.v.c.	£1	1	(
S. Chambers, Kirkheaton	1	1	(
E. McSwiney, Cork	1	1	(
L. P. Pugh, T. Lieut. A.V.C.	1	1	(
J. Renfrew, Glasgow	1	1	(
W. Willis, Clapham, S.W.	10	0	(
Previously acknowledged	890	15	(
		10	,

THE PRESIDENT B. of A. ON THE PROB-LEMS OF MEAT AND MILK SUPPLY, 1917-19

The Board of Agriculture have issued copies in pam phlet form of the speech by The Rt. Honble. R. E. Prothero, M.P., President of the Board of Agriculture and Fisheries, at Darlington, on Friday, 5th inst. It is addressed primarily to agriculturists, but it is quite obvious that the veterinary profession, or at least the practitioners concerned in agricultural practice, may assist in translating into practice the policy outlined therein. Probably most of our readers will have seen the address; it has been pretty fully reported in the agricultural and provincial press, but we give almost in full the sections on milk and meat supply. The veterinary profession is but a small wheel in the great machine of the State-it is young, it is numerically small, it is poor, but it is a valuable portion of the great—and to us, vital—industry of agriculture. How valuable it is is better understood by the governments of the oversea Dominions and of India than it is by our own.

THE MILK PROBLEM.

If the milk is short it means that the child life of this country is in peril. There are thousands of parents who won't mind going short of a bit of food themselves, but who cannot bear to see their children suffer. I would ask the dairy farmers all over the country to stick to their milk production. I know well enough that the labour difficulties of this branch of the industry are greater than in any other branch of it, but none the less Stick to it—in the dogged spirit of the men who are fighting for us by sea and land. I know that farmers who were under contract to supply fixed quantities of milk were losing during the winter of 1916-17 on the prices settled by the Board of Trade. It is impossible to fix one uniform rate which shall be fair to all. I have seen figures which show 18 varieties of the actual cost of milk production; 58 per cent. were at or below a certain figure, 42 per cent. were above it in varying degrees. If a price is fixed which gives a profit to 58 per cent., 42 per cent. will lose money. But there is one point which we must always bear in mind; the only fair way to calculate costs is to take the year as a whole, and to set off the higher expenses of the winter against the comparative cheapness of the summer months.

I think that something has been done to help milk producers. The Calf Order has been taken off in the interest of dairy farmers. It had for the time done its work. Then April this year was a bad month; grass was scarce. We made April a winter month, so that dairy farmers might get the benefit of winter prices as a set-off to the shortage of keep. Then the Food Controller promised that winter price for 1917-18 should not be fixed below 1s. 8d. the gallon. The recent Milk Order more than redeems that promise. Finally, the Food Controller is trying, and I hope he will succeed, to bring down the prices of feeding stuffs, and to secure to dairy farmers the first call on the scanty supplies which for army beef.

will be available. But I should like to add that dairy farmers who have

better off than those who have none. They can at least raise some portion of their winter cattle food for them-

ECONOMIES.

The only changes of method which will do any good are either to economise in food without reducing the yield of milk or to increase the yield per cow. In war time to do one or the other is a duty. Seventy per cent. of the cost of milk, production is spent on food, and about half of this goes in purchased foods. But some men spend more than others; they maintain a generous margin of safety. Thus, on five North Yorkshire dairy farms the difference between the highest and lowest in the daily cost of feeding cows was 5d. per cow, or, if the cow produced two gallons a day, $2\frac{1}{2}$ d. per gallon. Now if at £19 per ton every pound of cake you can save a day means with a two-gallon cow a reduction of id. a gallon a day, it pays to economise as long as you do not reduce yields. Any man can get his rations revised by experts at the local Agricutural College or at the Board of Agriculture. Best of all, he might perhaps-in war-time-induce a neighbour who has spared rations with success to give him a wrinkle

Skilful feeding, then, is one remedy; the other is to get rid of inferior cows. I don't advise this, unless you can replace them with better. But it is all-important to know what your cows are doing. On the five North Yorkshire dairy farms to which I alluded, the annual yield per cow varied from 315 gallons to 1314 gallons. Put that into money. At 1s. 5d. per gallon it is the difference between £22 6s. 3d. and £93 1s. 6d. Of course, that is an exceptionally high yield. But while 20 per cent. of the cows were yielding over 900 gallons a year, 20 per cent. yielded under 500, and at 1s. 8d. a gallon would not be paying their way. That shows the value of milk records. I may add that heifers and second-calf cows are omitted from these figures.

MEAT PRODUCTION.

At the outset, let me say that I do not intend to discuss the question of prices. A member of the Government ought not to criticise in public the actions of colleagues. Therefore, I feel bound to say nothing. I regret this the more because I have plenty to say which I want to say, and, perhaps, for my own reputation ought say, and because I know that the question is of all others the most burning one for farmers at the present moment, and one which seriously affects their whole attitude towards increased production. (Cheers), But I have made up my mind. My own business is not the price of food but food itself.

There is one point which I am, I think, obliged to make. It is stated that the Food Controller's prices are part of the agricultural policy of the Government; that they are intended to divert farmers from cattle to corn, and that they, therefore, deliberately aim at reducing the live-stock of the country by making meat production unremunerative. That is a complete error. It is quite true that, some months ago, the Board warned farmers that the head of cattle would have to be reduced. But there were two practical reasons for this warning. First, we knew that we were unlikely to be able to import much more than half the usual quantity of feeding stuffs. To put that statement into figures, our livestock normally consume 11,250,000 tons of concentrated food. This year we shall probably have only 6,000,000 tons, the greater part of which must be devoted to dairy cattle. Secondly, we knew that we should be obliged in the autumn and early winter of this year to begin to draw on our capital, and slaughter some 150,000 cattle

Neither of those reasons are matters of policy; they are facts arising out of the war; they show, what it is some portion of their land under the plough will be hard for some of us to realise, that we are actually fighting for our lives. We are only too well aware of the probable shortage of meat supplies during and after the war. So far from wishing to reduce live-stock, the Government is anxious to maintain and, if it were possible to feed them—to increase their numbers. But the two reasons I have given you show this to be absolutely impossible.

Neither is it true, nor in the remotest degree credible, that the low scale of prices fixed by the Food Controller from January onwards is designed by the Government to stimulate corn production. It is quite plain that a price of 60s. per cwt. live-weight for stallfed cattle must, in present circumstances, tend entirely in the opposite direction. It puts a premium on grass as the cheapest form of cattle feeding; it penalises stallfeeding on arable farms, and so tends to diminish the supply of manure without which it is impossible to carry on arable farming with success.

WHAT THE PUBLIC DO NOT REALISE.

The conditions under which farmers fatten cattle on arable land—and it is on them that we rely for our winter meat—are, as I think, widely misunderstood. I am convinced that at current prices—I have gone into the figures closely—arable farmers who still feed and fatten cattle for the winter markets have only made and could only make small profits, if they made any direct profits at all. (Hear, hear). The charge of profiteering is absolutely absurd—both before and during the war. (Cheers). "That is all very well," it may be said, "but farmers get their manure, and at present prices for corn that is worth a tremendous lot." Wheat at 72s. per 480 lb. and barley and oats in proportion are paying crops, if the yield per acre is high, and if the grain can be harvested cheaply and in good condition. Much turns on those "ifs." (Hear, hear, and laughter). I very much doubt whether the average yield per acre this year will be high. I am very certain that the harvest in most parts of the country has been extremely expensive, and that a considerable part of the grain has been lost or damaged.

Do people, I wonder, realise the extra cost of cutting corn which has been flattened by rain and twisted by wind? Do they recognise how much a man is out of pocket if he has to bring his men and horses into the field day after day, and send them home after waiting for hours because it is raining? Do they consider that, this year, after the corn has been gathered into sheaves, it has often been necessary to scatter the sheaves again, and even to untie them, in order to give it a chance of drying? Do they think of the quantities of seed that has been shaken out of the ear and lost, or the amount of corn that is damaged or sprouted? If they thought of all the money lost by these misfortunes I do not think that they would attach any exceptional value to farmyard manure on the score of high profits realised on growing corn in a season like that through which we

THE PRESENT POSITION.

have just passed.

Meanwhile the position is deplorable, and may soon become serious. My Advisory Committee, consisting of some of the most experienced farmers in the country, one of whom I am glad to see behind me to-day, have put the farmers' case before me. And, as I understand

He is willing in the national interest to produce winter beef at the lowest rate of profit which will save him from pecuniary loss, provided that distributors are treated in the same way.

He strongly objects, however, to the demand that he should pay money out of his own pocket in order that September 4, allowing for their reduced weight, and

resents the attempt to enforce that demand by a campaign of abuse to set public opinion against him (cheers).

The result is that in many parts of the country, preparations for winter feeding are entirely suspended; neither cake nor stores are bought. Meanwhile time is rapidly passing. Without any complications of this sort, the meat situation is sufficiently serious to need careful handling. You can alter wages or prices with a stroke of the pen, but it takes at least three years to produce finished cattle, and at least three years to remedy a mistake. (Hear, hear.) In war-time figures are dangerous. I can, therefore, only put the position to you in a general way.

WINTER FEEDING.

As I have already said, we cannot import enough concentrated food to enable farmers to finish cattle as they usually do. At the same time, we have been obliged to make an extra draft on home supplies for Army beef. These are two of the consequences of war. They are facts which we cannot alter. They are not questions of Government policy. The only point which repays discussion is what is to be done to meet the special circumstances created by the war. A hundred and fifty years ago winter-feeding was unknown. Cattle, fattened on summer grass, were slaughtered in the autumn, and people lived in the winter on dried or salted beef. With the introduction of roots, winterfeeding became possible. The roast beef of an Old English Christmas was produced from the three-year-old cattle, fattened slowly on roots, hay, and straw. The discovery of concentrated foods made two changes; it enabled farmers to fatten younger animals, and to do it more rapidly. This is the most economical method of producing winter beef. But to day, from want of cake that method is impossible. It is very doubtful whether two-year-old cattle can be fattened without cake, and three-year-olds are scarce. What then is to be done? In normal times we ate 45,500,000 lb. of beef a week, of which 38 per cent. was imported. We cannot now reckon on more than half this supply from abroad. Thus the demand made upon home grown beef is increased, and, at the same time, our means of producing We can only command one half of the normal supply of concentrated foods. The dispute as to the gain or loss on three-quarter fattening does not arise here, because we shall not have the food with which to finish. We have to meet an emergency, and I believe the best way to do so is to aim at bringing a large number of cattle to eatable condition, and not to finish a few highly. Now there is evidence to show that two-year-old cattle will put on about 1 lb. a day in weight if they are for, say, 20 weeks on a ration of roots, hay, and straw, provided that they receive in addition a daily allowance of 1 lb. of cake, when roots are good, or of 2 lb. when roots are poor. We know that on September 4 we had in the United Kingdom a certain number of cattle of two years old and upwards, excluding milking cows, bulls, and other animals, which are, for various reasons, not available for slaughter. We believe that there will be sufficient cake to allow a ration of 1½ lb. a day to these cattle. Thus fed for 20 weeks they will not be fat in the ordinary sense of the word; they will not be prime beef. But, though they weigh less, they will yield, as has been proved by experience, a fair proportion of eatable meat. (Hear, hear.)

THREE ALTERNATIVES.

Now, taking all the two year-old cattle available on other sections of the community may pay less for their adding the usual number of cows drafted from the dairy meat than it costs to produce (cheers)—and he bitterly herds, we shall be able to supply the 45,500,000 lb. of adding the usual number of cows drafted from the dairy beef normally consumed per week to within a measureable distance of the time when cattle again begin to come off the summer grass. But in May and June, 1918, the supply will run short unless we adopt one of three alternatives.

The first is dangerous. It is to slaughter an increased number of cows and heifers or veal calves.

The second alternative is to import more beef. In

that matter we are not our own masters.

The third alternative is to reduce consumption. That is really the only one of the three which is safe and within our own control. There is one important point arising out of what I have just said which I should have liked to discuss at length. But time presses. It is the question whether the manure made by cattle fed on the lines suggested above will be so inferior in quantity and quality as to impair the fertility of the land, and consequently diminish corn production in 1919. On the whole the answer is reassuring. The quantity of manure made from the beginning of October, 1917, to the end of June, 1918, will not fall below seveneighths of that normally produced from fattening cattle. The quality will to a certain extent suffer. The percentage of organic matter, on which depends the permanent increase of fortilily, remains the same. But the lower ration of cake will rob the manure of at least half the ammonia which produces the immediate results. Fortunately for us, we shall be able to command a greatly increased quantity of sulphate of ammonia to compensate this loss.

The sheep position is more serious. We have had a disastrous lambing season; the imports of frozen mutton will probably be reduced; and there will be little cake available for winter feeding. All I can advise farmers to do is to winter their young sheep as cheaply as possible, and to reserve what cake or corn they can get for their older sheep, which will reach an eatable condition on roots and hay and very little cake or corn. The sheep stocks of the country will be low for the next year or two. As to the pig situation, I need say little. It is like that of cattle and sheep; it is somewhat eased by the quantity of diseased potatoes and of damaged

corn in the country.

REDUCED CONSUMPTION OF MEAT A NECESSITY.

I have put the facts before you in a broad and general way, and it results in this. If the consumption of meat continues at the present rate the position may undoubtedly become dangerous. I am confident, however, that if the present difficulty over meat prices is satisfactorily met, farmers as a whole will do their utmost, in the nation's interest, not only to increase supplies of corn, but to maintain those of milk and meat. So the new agricultural year opens with a louder and a more insistent call for added effort and increased self-sacrifice. On the ploughing, sowing, and feeding of the next few months depend our home-grown supplies of bread and meat for 1918.

As a nation we are fighting for life. Men, munitions, money, time are certainly on our side. Only food is doubtful. Remember what a shortage means. Hunger is hard to bear. It turns strength to weakness; it saps endurance; it starves courage; it breeds discontent, suspicion, bitterness. If the war last it might even force us to admit defeat, and sacrifice that freedom and lasting peace which complete victory would secure. If the war has ended it may rob us of the patience and moderation which are essential to prudent action, and embitter, beyond conciliation, the problems that peace will at once present on every side of our national life.

REVIEW.

VETERINARY OBSTETRICS. By W. L. WILLIAMS, Professor of Obstetrics and Research Professor in the Diseases of Breeding Cattle in the New York State Veterinary College at Cornell University. Pp. xiv. + 637 (including index), with three coloured plates and 140 illustrations in the text. (Published by the Author, Ithaca, N.Y., 1917.)

In 1909, Prof. Williams published a work in which obstetrics, the diseases of the genital organs, and those of newly-born animals, were included in a single volume. Subsequent advances in our knowledge of these fields led to the recognition of a much closer interdependence between them than was realised in 1909; and thus it became necessary to recast the work from an entirely new standpoint. Accordingly, in the author's words, "it has been decided to prepare a new volume upon obstetrics and a companion volume upon the diseases of the genital organs, including those diseases of the young animal transmitted from mother to young in utero, or through the milk." The book now to hand is the first of the two volumes, and should be considered, not as a revision of part of the 1909 volume, but as a new work.

In this volume of 630 pages of literary matter a wide field is covered. Obstetric anatomy and physiology are first dealt with; and here many may think that too much space has been accorded to embryology. Certainly more embryological detail has been included than is required by a clinician using the book simply as a guide in his practice; but there is something to be said for treating the subject at some length in any obstetrical text-book. Pregnancy naturally comes next, followed by some half-dozen pages upon the hygiene of pregnant animals, and then by about 70 pages upon the diseases of pregnant animals, and those of the fœtus and its membranes. Physiological parturition is then fully dealt with, after which comes the important subject of dystokia. This section, which altogether somewhat exceeds 200 pages, is divided into three main portions the first upon equipment, general management of parturition cases, and obstetric operations; the second and third deal respectively with maternal and feetal dystokia. The last three sections of the work deal with wounds and injuries of the genital organs; puerperal infections; and puerperal colamptic diseases, all of which are well handled in the space of between 80 and 90 pages.

So comprehensive a work can only be reviewed broadly; and it may be said at once that the book, while containing much controversial matter, will be very valuable to all veterinarians practising in breeding districts. The author often challenges generally accepted views; but when his controversial opinions are closely examined, it will be found that solid reasons are adduced on behalf of most of them. The book possesses two outstanding merits. The first is the attention given to the practical details of parturition work, of the difficulties of which the author has evidently had great experience. Full directions are given regarding all the various manipulations; and, though no written account of these subjects can ever be wholly satisfactory, this one strikes us as altogether admirable. An instance of this feature in the work is the amount of space devoted to the consideration of obstetrical equipment, and especially to the very debateable question of the merits of different parturition instruments. A great variety of the latter are figured, described, and critically discussed; and the author's views regarding them are valuable. Like most skilled veterinary obstetricians, he has been led by experience to simplify his equipment, but he still uses more instruments than some English practitioners.

The second special merit of the book is its constant attempt to trace out the anatomical and physiological causes upon which obstetric troubles depend; and here the practitioner will find the work exceedingly stimulating and suggestive. The sections upon such hitherto little-mentioned subjects as rupture of the pre-pubian tendon and bi-cornual pregnancy are instances of this. In this connection an important feature of the work is its insistence on the intimate relation between diseases of the genital organs and difficulties in parturition; and here the section upon the dystokia of contagious abortion—the latter term being used in its widest sense to include abortions due not only to Bang's bacillus but also to other microbial infections—is perhaps the best example of the trend of the author's teaching. It will not be universally accepted; but no one will be able to read the book without being forced to re-examine his views upon many obstetric questions.

The numerous illustrations, which are both well chosen and well executed, add much to the value of the work. Altogether it may be fairly said that this is one of the comparatively few books which the country practitioner ought to possess.

W.R.C.

Veterinary Surgeon honoured.

Mr. Henry Turner, of the Old Rectory, Puttenham, Tring, was, on Thursday, 11th inst, admitted to the freedom and livery of the City of London in the Worshipful Company of Felt-makers, in recognition of his distinguished services in the railway world. Mr. Turner was presented with the freedom and livery in the historic London Guildhall, and had as his colleagues the Right Hon. Baron Colwyn, and Sir W. Middlebrook, M.P. Major Richard Trigg, T.D., and Alderman Sir Louis A. Newton, Senior Sheriff of the City, acted as Mr. Turner's sponsors.

Major Rigg, who is the Upper Warden of the Company, proposed the election of Mr. Turner, and in the course of his remarks, said:—"Mr. Henry Turner was born at Dudley it 1859, being the son of Mr. John Turner, colliery proprietor. He was educated at St. Thomas' School, Dudley, and afterwards by private tutor. In 1876 he became a pupil, and afterwards an assistant, to the late Mr. Harry Olver, F.R.C.V.S., of Tamworth. In 1880 he was engaged as assistant to the late Professor Pritchard, Professor at the Royal College of Veterinary Surgeons, London. He was placed by Professor Pritchard in the service of the Midland Railway Company in London, and in 1881 was transferred to the L. and N. W. Railway Co. Mr. Turner acted as assistant to the late Capt. Barthorp, upon whose retirement in 1095, he attained the premier position as Superintendent of the horse department, which post he still occupies. It is the largest department of the kind on any of the huge railway systems, and he was justly acknowledged as one of the leading officials and organisers in the great railway world."

Mr. Turner, in his reply, thanked Major Rigg and Alderman Sir Louis Newton for having respectively proposed and seconded him, and expressed his deep gratitude to the members for having unanimously elected him to the freedom and livery of the Mother City of the Empire. The history of the City Guilds and the Corporation of London was largely the history of England; the interests of both were closely interwoven, for they had always been strenuous upholders of liberty. The Guilds had a glorious record—they had done their part in the City and at the front in the present war—and in the reconstruction which must follow the war they would be expected to take their full share in reviving and stimulating in their various crafts that increased production, which was recognised, without distinction of party, as a national necessity. In thanking them for the compliment they had paid him, he assured them he should ever endeavour to merit their confidence.—The Bucks Herald.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Oct. 18. REGULAR FORCES. ARMY VETERINARY CORPS.

The notification in the Gazette of Sept. 11, regarding temp. Capt. A. C. Jagger is cancelled.

Temp. Lieut. to be temp. Capt: -W. R. Kennedy, (July 3).

Oct. 22.

Temp. Capt. T. F. Hotchkis relinquishes his commn. on on acct. of ill-health contracted on active service, and is granted the hon. rank of Capt. (Oct. 10).

The notification in Gazette of Sept. 1 regarding the following Capts. (T.F.) is cancelled:—A. W. Reid, J. S. Bowden, P. Abson, A. N. Foster, J. H. Wright.

Temp. Lt. to be temp. Capt.: -W. G. Burndred (Oct. 9).

CANADIAN A.V.C.

Temp. Capt. S. C. Richards to be actg. Maj. while spec empld. (Aug. 25).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Oct 20

Capt. (actg. Maj.) A. W. Reid, F.R.C.V.S., relinquishes the temp. rank of Maj. on ceasing to be employed as D.A.D.V.S. (Sept. 18).

Capt. W. Stothert to be actg. Maj. whilst employed as D.A.D.V.S. (Sept. 18).

Oct. 24.

Autora

Capt. R. B. Palmer to be actg. Maj. whilst comdg. a Veterinary Hospital (Aug. 24).

The following casualty is reported:—
DIED—Pte. E. E. Setchfield, 7275 (New Walsoken).

OBITUARY.

WILLIAM CLEOPHAS BARLING, M.R.C.V.S., Newnham, Glos. Graduated, Lond: April, 1868.

Mr. Barling died on Sunday night, 14th inst., at his residence, The Paddocks, Newnham, after a long illness. He was the son of Mr. William Barling, of Blythe Court, Newnham. He carried on an extensive business as a veterinary surgeon and farmer. He was also a large exporter of horses to the Continent. He was joint hon. secretary to the Belgian Relief Committe. Deceased's only son, Lieut. Bingham Barling, was killed in action early in the war. At the funeral at Newnham, on Wednesday, were Mrs. W. C. Barling, widow; Mrs. G. H. Oxley and the Misses Freda and Lucy Barling, daughters; Mr. J. L. Barling, Hereford, who also represented Mr. Fred W. Barling, Bartestree Court; Mr. F. Barling, Birmingham; and Mr. Macdonald, the deceased gentleman's assistant. Six workmen on the estate acted as bearers. A large company attended the funeral, and beautiful wreaths were sent by relatives and friends.

JOHN BLAKEWAY, F.R.C.V.S., Chaddesley-Corbett, Kidderminster. Lond: April, 1885; July, 1892.

Mr. Blakeway was on the Board of Examiners for the Membership since 1901. He had retired from his practice in Birmingham about 11 years ago, and returned to Chaddesley-Corbett, with which parish his family has long been associated. He was among the first to take up service on the outbreak of war, joined the British Remount

Commission, and had three years service in Canada, U.S.A., and Spain. Mrs. Blakeway accompanied him on his last visit to America. A few months back he sent us four picturesque half-plate photos, of one of the collecting camps, which, in better times, we should have reproduced for our readers.

He returned to England on Sept. 5, and was granted the rank of Capt. A.v.c. A few weeks after his return he had an accident—a fall, and had been under medical care for three weeks for difficulty in breathing which had supervened, and died suddenly in his chair on Thursday, 18th inst. His age was 52.

His two sons joined up at the cutbreak of war, and have seen active service in various parts.

J. WILLIAM COE, F.R.V.C.S., Major A.V.C. (T.F.), T.D. Stoke-on-Trent. Lond: May, 1889; Dec. 1901.

News has been received of the death of Major Coe, in a hospital at Rouen, on Saturday last. It was known some weeks back that he had been seriously injured by a fall from his horse. He was a well known and popular man amongst his confrères in the Midlands, and his loss is very generally regretted.

GOOCH.—On October 20th, at St. Martin's, Stamford, Constance Jane Gooch, the beloved wife of Fredk. Leeds Gooch, F.R.C.V.S., aged 54 years.

Alleged milk adulteration—dismissed.

At Athy Petty Sessions, on Tuesday, 16th inst., before Col. Barry, Messrs. Thomas Plowman and J. C. Ryan, Sergt. Hoffman, Inspector of Foods and Drugs, sum-moned Patrick Mullery, William Street, for alleged adulteration of milk.

Complainant stated that on September 7th he purchased a sample of milk at defendant's place, which he sent for analysis in the usual way. The certificate of Sir Charles Cameron stated that the analysis showed 6.25 per cent. of water had been added as an adulterant. The milk contained 8 per cent. of non fatty solids, and 3.1 of fats. The poorest milk contains 11.1 per cent. of

non-fatty solids.
Dr. Monks (for the defence): He took the sample about 8 o'clock in the morning from Mrs. Mullery, who was in the shop. There were about six pints in the

vessel from which the sample was taken.

Mary Dooley stated that between 7.30 and a quarter to 8 o'clock on the morning of the 12th ult. she went to Mullery's for milk. Mrs. Mullery told her there was no milk in, but that Thomas Walsh, an employe, was milking the cows. She went to the place near by where he was milking and brought the small quantity which he had milked out to the shop where it was strained, and she was served with 1½ pints. The milk was not interfered with. Thomas Walsh made the remark when she was taking the milk that it was not fit, as he had not the cow finished, and witness said she wanted the milk in a hurry as she was going out to work.

By Sergt. Hoffman: She was sure the vessel in which

Thomas Walsh stated that he was twelve years in defendant's employment. When Mrs. Dooley came he told her to wait until he had milked the cow out, as he did not wish to give her the "fore" milk.

Miss Lizzie Mullery was also examined to prove that there was no interference with the milk. Answering

Sergt. Hoffman, said she was about five or six months in the trade and had no complaints from customers.

Mr. John Holland, V.S., said he examined the cow from which the milk was taken. It was a healthylosking animal. He took samples of the milk morning. and evening. Experience showed that the evening milk it stands.

was much richer than the morning milk, and the cream richer.

Mr. Ryan: What has this got to do with the case? Dr. Monks: In your experience is it a fact that the morning milk is generally a weaker milk?—Yes, $\frac{1}{2}$ to 1

Would the character of the milk as described in the the analysis be consistent with this milk taken from the cow in the morning?-Yes, I should say so. If the whole of the milk had been taken from the cow there would be at least 11.5 of solids.

Mr. Ryan: This is a case of added water !-Yes, but it is a percentage. I would prefer to be on the other side of this case if I thought there was anything wrong. would be as severe as anyone would be in that case.

Dr. Monk: It is a fair milk, and only such a milk would contain less fats than an entire milk?—Decidedly, as there is 1 per cent. of fats over the standard required.

Replying to the Police, witness said that the analyst weighed the bulk and then extracted the solids from that. The remainder got credit as water. The system is wrong and the Co. Court Judge agreed with that view, and the law should be altered. The Court of Appeal in England held the same view.

Sergt. Hoffman: By a majority.

Mr. Ryan: Do you contradict the certificate issued by Sir Charles Cameron ?—I would not be such a fool.

Your evidence is that you are not prepared to say there was not any added water?—It would be impossible for me to do so, but I am convinced there was not.

Are you prepared to say that the sample taken by the police was not adulterated with water?—It would be

impossible for me to say so.

A sample of milk was submitted for analysis to Sir Charles Cameron, and he certifies that it is adulterated with 6.25 of added water. Are you prepared to contradict that?—I could not do so, but I disbelieve it.

Why?—I disagree with the law on this matter.

A great many disagree with some laws?—The County Court Judge agrees with me. If the police got fore

milk it would be a very unfair analysis.

Mr. Ryan: I do not think you have any right to express an opinion on Sir Charles Cameron's opinion. You say he is an expert, and I take it you are not.—Perhaps I know a little more than you imagine.

I do not question your knowledge, but I take it you are not an expert.—I had some work of that kind to do

in Glasgow.

Are you an analyst or not ?—No.

You are a Veterinary Surgeon. How then can you contradict the certificate?—I have one or two diplomas that allow me in this matter to have added knowledge as veterinary surgeon.

Do they give you any authority to contradict this

certificate

Dr. Monks: Did you intend, or is your evidence purporting to contradict the certificate of Sir Charles Cameron?—Decidedly not.

You are not attempting to contradict the accuracy of

the certificate?—No.

Is the sample of milk which was analysed consistent with milk that might have come from the cow without adulteration ?- Decidedly.

Mr. Ryan: How can you say that !- I can if it was

fore milk.

Dr. Monks: There is no contradiction of Sir Charles Cameron, and I do not want the case confused.

Mr. Ryan said the sooner Sir Charles Cameron was put on the witness table in this class of case the better. It would clear up many cases if he was asked about the added water in milk. He (Mr. Ryan) was not satisfied about it.

Dr. Monks: None of us are satisfied with the law as

Mr. Ryan: I agree. None of the magistrates are.

Dr. Monks: But you must accept the law as it stands whether it pleases or not. Addressing the Bench, Dr. Monks said this case had been acted upon by the County Court Judge in a similar prosecution, who held that milk as it comes from the cow if sold in that state carries no liability for the quality, and has complied with the Section of the Act. What the magistrates had to consider was—are they satisfied on the evidence that has been given that the milk supplied to the police is milk as it actually came from the cow. were so satisfied, then they could dismiss the case. Having referred to the fact that the witnesses were impartial and that there were no previous prosecutions against the defendant, Dr. Monks said he was not questioning the accuracy of the certificate. Mr. Holland had considerable experience, and his evidence was invariably accepted in these cases. He swore that being the morning milk and the fore milk it was perfectly consistent with the evidence, and the fact that it was sold as it came from the cow. If they believed the milk was not tampered with he was entitled to a dismiss.

Colonel Barry: How does the added water come in if there is no deficiency in fats?

Mr. Holland: The solids are weighed. If the solids are less than they ought to be the water gets credit for

Colonel Barry: From my experience I know "pour-

is very poor milk.

Mr. Ryan said the case of Hunt and Richards in the Mr. Ryan said the case of fruit and richards in the English Court of Appeal had practically nullified the administration of this Act, and everyone would be glad to see the law set right. The magistrates had decided to dismiss this case on the ground that the evidence produced shows that the milk was sold as it came from With regard to the second point in the case, the question of the analyst's certificate, it shows that the milk contained a certain percentage of added water, as an adulterant, and no evidence produced there had altered his opinion. The difference between morning and evening milk was well known public knowledge. That did not alter the fact that the analyst's certificate showed that there was added water. To show that there was not added water, the only thing to do was to produce a counter analyst's certificate, or produce him to explain his analysis. Mr. Holland was well known by reputation, and they all had the greatest respect for him, but he was not an analyst. The magistrates would be very glad if an analyst was put on the witness table some day in order to have him examined and crossexamined on his analysis. It might clear the air.-The Nationalist and Leinster Times.

The protective functions of the Skin.

The skin as a whole may be regarded as an organ with a common and complete function of its own, to which view testimony is borne by the complete way in which it suffers in certain infectious diseases, such as scarlatina and variola; and it is precisely these infections in which the skin plays a large part that permanent or nearly lifelong immunity results. Professor B. Bloch, head of the dermatological clinic in Zurich, discusses some of these immunity problems in relation to the skin in the Correspondenz-Blatt für Schweizer Aerzte for August 4th. He notes how seldom general paralysis or tabes is associated with a cutaneous gumma in the same patient and how rare it is to see these late parasyphilides at all in countries where, in consequence of defective treatment, severe tertiary lesions are common in the skin. He quotes the statistics of Mattauschek and Pilcz to confirm the relative infrequency of tabes in patients with early abundant cutaneous evolve-Taken together these and similar observations lead Dr. Bloch to lay great stress on the allergic function of the skin—its reaction to an unwelcome intrusion of which it has once had experience. The classical rewhich it has once had experience. The classical re-searches of Richet, v. Pirquet, and Römer have shown how the cutaneous manifestations of tubercle are influenced by this function of allergy which regulates their clinical course as well as the anatomical structure of the tuberculous nodule itself. Cutaneous tuberculides are nothing else but the reaction of the forewarned skin of the chronic consumptive to any isolated bacilli brought by the blood stream.

Historically it has been from studies of the skinbeginning with Jenner's vaccination and Koch's fundamental experiment of tubercle inoculation in the guineapig-that most light has been thrown on problems of immunity. Due in part to the fact that the skin is so favourably situated for exact observation, the fact probably remains that it is to the external covering of the body which we must look for the most important processes of immunisation. The struggle against attacking microbes from without has slowly adapted the skin and given it the ability to react against the parasites themselves, as well as their toxins with the process which we now know as allergic inflammation. This function has been gradually acquired in the history of the race and of the individual, since neither the skin of the lower animal nor of the new-born child reacts in at all the same way as that of the human adult.—Brit:

Med: Jour.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.			Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.		
			Out- breaks (a)	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.	
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[†] The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. (a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :- Stafford 1 Board of Agriculture and Fisheries, Oct. 16, 1917 Excluding outbreaks in army horses.

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† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. (1) Confirmed. (b) Reported by Local Authorities. t Counties affected, animals attacked :- Merioneth 1 Board of Agriculture and Fisheries, Oct. 23, 1917 Excluding outbreaks in army horses.

THE PRESENT CRITICISM OF THE A.V.D.

Sir,-However untrue or otherwise the allegations at present being levelled against the A.V.D. and its personnel, the remedy to prevent a recurrence is obvious.

Give the young graduates a chance, and in selecting for administrative posts, or command of hospitals, judge on merit, and not as at present on age, or length of service, or years of qualification

If this was carried out no complaints would be made. I enclose my card.—Yours faithfully,

OBSERVER.

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RECORD VETERINARY

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1530.

NOVEMBER 3, 1917.

Vol. XXX.

VOLUNTARY SUBSCRIPTIONS.

The voluntary subscriptions for 1916 amounted to about £850. The total for this year already exceeds £900; and there are yet two months in which to increase it. We ought, by the end of the year, to bring the total over £1000; and we might even

exceed that figure considerably.

Individual examples of readiness to share in such an effort are not wanting. There was one in the subscription list published last week, which acknowledged the receipt of £10 10s. from Mr. W. Willis. This shows that one man who has repeatedly given solid assistance to the scientific progress of the profession is also prepared to accord it liberal financial support in a time of special need. There have been other instances of men sending much more than the guinea a year which the Council ask; one or two members have subscribed sums amounting to a guinea for each year of their respective periods of membership. These cases are very gratifying; but those who know the financial resources of the profession also know well that there might be and those which appear to be the most readily toxic. ought to be more of them.

annual guinea which the Council ask, while it is well within the power of almost all of us, is about as much as can fairly be expected from the majority. But, along with that majority, we have a very considerable minority whose circumstances are quite different. A few of us-not many, but nevertheless more than some members realise-may fairly be called wealthy men. A much larger number-and here again there are more than is generally thought -- are, to say the least, well-to-do; and they, like the really wealthy ones, could easily spare much more than a guinea upon an occasion like

this.

We all know the present position of the R.C.V.S. We have had to reduce prosecutions to the minimum; we may be forced to return to the objectionable one-examiner system which we were able to give up seven months ago; and we may also incur heavy bankers' overdrafts. Voluntary subscription alone will enable the Council to fully resume its working activities and maintain them till after the passage of the Bill. Many of the less prosperous members are willingly paying their guinea; but the more affluent ones may fairly be expected to do something more. Comparatively few of them have done so; others have limited themselves to the single guinea; and some have not even given that. The profession has done much in the last two years, but more remains to be done; and, broadly speaking, its wealthier members have hardly yet done each. their full share.

THE LUPINES AS POISONOUS PLANTS.

Shaw, Clawson, and H. Marsh, in the Bulletin of the United States Department of Agriculture, of last year, published an article upon this subject. It is known that in certain regions the lupines (Lupinus flavus, cerulens albus) are cultivated as forage on account of the great quantity of albumen they contain. Sheep fed with lupines often fall ill with a form of hepatitis which, according to whether its evolution is acute or chronic, is characterised by fatty degeneration with acute red or yellow atrophy of the viscera, or an indurative interstitial inflammation. It is beyond doubt that the affection known under the name of Lupinosis is a form of poisoning dependent upon the use of lupines; it affects also goats, cattle, and horses.

The poison of lupines has been designated ictrogen by Kühn. It appears that it is formed by the development of some hyphomycetes upon lupines which have been gathered for some time, and the lupines which have been kept for a long time are

Shaw has made a further chemical study of the As a rule, veterinary surgeons are not rich. The lupines, and has found an alkaloid in the American species. He has demonstrated that most, if not all, of the cases of animal lupine poisoning in America are due to this alkaloid, and not to the ictrogen of Numerous experimental tests have demonstrated that all the aërial parts of the lupine may possess the toxin, but that it is scanty in the leaves. This toxic substance is eliminated by the kidneys. It is not accumulated in the organism, and animals may eat relatively considerable quantities of lupines with impunity, if they do not at one time ingest those which are very rich in the alkaloid.

According to Shaw, no curative treatment appears satisfactory—at least, no antidote to the poison is known. All that can be done is to partially hinder the formation of the alkaloid; and to favour its elimination by the intestine or through the kidneys with alkaline purgatives associated with sodium bicarbonate. Poisoning may be avoided by sus-pending feeding with lupines for a time at the first suspicious symptoms, and by taking care not to bring hungry sheep into fields where the plants are abundant, nor to allow them large quantities of the silaged or otherwise preserved lupines as fodder. (La Clinica Veterinaria).

At the sale of the Newbus Grange Shorthorns three bulls averaged £542 10s. 4d. A cow made £682 10s., others £525 and £504. Several heifers made over £300

Last month a Romney Marsh ram was sold for 300 gs

THE PITUITARY BODY AND THE RENAL FUNCTION.

Motzfeldt contributed an article upon this subject to Boston Medical and Surgical Journal of last year. A certain number of clinical cases of diabetes insipidus treated with pituitary extract, and some observations made upon normal individuals have induced him to think that the pituitary gland exercises a control upon the quantity of urine emitted and upon the secretion of some of its solid elements. In three cases of diabetes insipidus he has found that the administration of endopituitrin considerably diminished the quantity of the urine, while its concentration was augmented.

The author is of opinion that the majority of cases of diabetes insipidus are due to a functional insufficiency of the posterior lobe of the pituitary

He has also made numerous observations upon healthy individuals, and has found that the injecquantity of the urine. In every case the diuresis diminished; and in many cases an augmentation in the urinary concentration (from nitrogen and sodium chloride) was observed. An injection alone does not produce durable effects, and, therefore, repeated ones are advised,

The influence of the posterior lobe of the pituitary gland upon the renal function may be explained in a variety of ways. It may be either a direct action upon the kidneys through the circulatory system, or an effect upon the nervous system (autonomous or sympathetic), or upon other glands with internal secretions.—(La Clinica Veterinaria.)

W. R. C.

IRRITANT INJECTIONS INSTEAD OF NEURECTOMIES

Frick reports as follows (Recueil de Médecine Vétérinaire.)

The injection of an irritant liquid on the course of a nerve track brings about a reaction which results in a considerable atrophy of the nerve.

In cases of lameness where neurectomy is indicated the author himself has systematically substituted this practice of injection, and the results which he obtained have always been completely

The following is the procedure. The place selected is the usual site for neurectomy; the animal is controlled in the standing position, the region is shaved, disinfected, and on to the course of the nerve he injects by means of a Pravaz syringe 10 c.c. of absolute alcohol to which has been added four or five drops of Tircture of iodine. Frequently the lameness disappears in some minutes; then in the following 48 hours considerable inflammation of the part occurs which sometimes produces fresh lameness. This is passive. Results similar to neurectomy were obtained in each case by this procedure, without surgical operation and without the risks incidental to casting.

L. J. K.

THE CENTRAL VETERINARY SOCIETY.

[NATIONAL V.M.A. SOUTHERN BRANCH.]

The Annual General Meeting was held on Thursday, the 11th October, at 7 p.m., at 10 Red Lion Square, London, W.C.

On the motion of the Hon. Secretary (who explained that he had received a communication from the President, Mr. Nicholson Almond, regretting his inability to be present), supported by the Treasurer, Mr. W. Roger Clarke was voted to the chair.

Minutes. The CHAIRMAN proposed, and Mr. STROUD seconded the proposal, that the minutes of the last last annual general meeting be taken as read. The

Fellows unanimously assented.

Correspondence. The Secretary stated that he had received an acknowledgement from Miss Wells of the wreath sent by the Society on the occasion of the funeral of her brother, Mr. C. E. Wells, who last sum-

mer met with a fatal accident.

A letter had also been received from Mr. L. E. Tipper, of Birmingham, requesting subscriptions to the "Birtion of endopituitrin has a decided effect upon the mingham Horse and Vehicle Owners' Allied Trades and their Workmen's Trade Union Red Cross Ambulance Fund." This communication had already been placed before the Council, and at the suggestion of Mr. McIntosh the following resolution was put to the meeting: "That the Secretary be instructed to write to Mr. Tipper expressing the Society's full sympathy with the proposal, but pointing out that, as it is understood that A similar movement is on foot in London, the Central Veterinary Society feels that the local scheme should have the first claim upon its support." The meeting agreed.

Mr. STROUD then introduced the subject of Professor Macqueen's resignation, conveyed by two communications from that gentleman, in one of which he had stated that he would not withdraw his resignation, as rightly or wrongly, he held the view that the Central Veterinary Society should close down during the war. That being so, Mr. Stroud desired the meeting to indicate what action should be taken, whether the resignation should be accepted or not, or whether the matter

be left in the hands of the Society's officers? Mr. McIntosii felt that Fellows would agree that the Society could not afford to lose so valuable a Fellow. Prof. Macqueen had been a regular attendant at the meetings, and his contributions to the proceedings had been full of interest and benefit to the Society. He thought Prof. Macqueen should be approached by the Society and asked to further reconsider his resignation, in view of the feeling of Fellows against his withdrawal. He therefore moved that the Secretary be requested to write to Prof. Macqueen to that effect.

Mr. STROUD, supporting this motion, endorsed Mr. McIntosh's enconiums of Prof. Macqueen, whose observations had always been well thought out and of great worth; those observations appealed to every member of the profession, and were not restricted in interest to the Fellows who listened to them.

The CHAIRMAN then put to the meeting: That a further attempt be made to induce Prof. Macqueen to withdraw his resignation. Fellows present unanimously

agreed.

Election of Fellows. On a ballot taken of the Fellows present, it was announced that Capt. J. T. Edwards, A.v.c., had been unanimously elected a Fellow of the

ANNUAL REPORT AND BALANCE SHEET.

Mr. President and Gentlemen,-The Council begs to inform you that the Session 1916-17, though still a strenuous one, has been successful. A very large number of your Fellows continue to be on active service with the different armies, or engaged in different capacities at home or abroad.

The annual meeting was held in October, 1916, at which Mr. Nicholson Almond was unanimously elected President. Nine ordinary meetings and one Council meeting have been held, with an average attendance of 15 at the former. This, considering the great stress of the times, is very good, and we hope that Fellows will make an effort and continue to attend the meetings regularly.

It was decided not to hold the July meeting this year. The annual dinner was again postponed, but we hope

At the November meeting will be resumed.

At the November meeting the President gave his Presidential address. We are sorry to report that we have lost a valued Fellow in Mr. C. E. Wells, who met with a fatal accident in the summer.

On Sept. 25th the Fellows of your Society, at the invitation of Sir Stewart Stockman, visited the new Laboratory of the Board of Agriculture, at Addlestone, with the Midland and Royal Counties V.M.A.; luncheon was served at Weybridge, and Sir Stewart Stockman kindly supplied tea at the Laboratory; a very pleasant, instructive, and interesting afternoon was spent.

We have to thank the following gentlemen for sub-

we have to thank the following gentlemen for sub-mitting papers and opening discussions:—Mr. Livesey, "Is it more profitable to grow grain for the public con-sumption or for the feeding of stock?" Prof. G. H. Wooldridge, "Purpura hamorrhagica;" and Mr. Henry Gray, "Some surgical conditions encountered in canine practice." Though our attendances have not been up to the usual average, all papers, cases reported, and post-mortem specimens have created lively, prolonged and instructive discussions. Invited opinions on clinical cases were keenly discussed.

Your Council is very pleased to note the numerous interesting post-mortem specimens brought to the meetings, and it is hoped Fellows will continue to supply them. Unsuccessful cases are quite as interesting as successful one, and sometimes more instructive. The following gentlemen are to be thanked for bringing these subjects forward:—Prof. G. H. Wooldridge; Messrs. H. D. Jones, W. S. King, W. Perryman, W. R. Davis, J. Willett, Herbert King, Henry Gray, and the Hon. Secretary.

The balance brought forward and the receipts for the

year amount to £90 10s. 5d., the expenses were £33 10s. and £19 has been invested in 5% War Loan, which leaves a balance of £44 0s. 5d.

The Council desires to again make a special appeal to Fellows still remaining at home, and would urge them to endeavour to put in a more regular attendance at the meetings and thus help the Society to carry on its useful work during the war.

Mr. STROUD proposed, and Mr. McIntosh seconded, that the Annual Report and Balance Sheet be received. The proposal was carried unanimously.

Mr. J. WILLETT recommended, supported by Mr. Buxton, That the meeting do adopt this report; which it unanimously did.

Appointment of Scrutineers. The CHAIRMAN suggested that, in accordance with custom, this matter should be left for consideration when it was known whether or not there would be a ballot. Fellows assented.

An informal discussion followed on the subject of the meetings of the Society during the war, Prof. Wooldridge suggesting that the subject should be introduced by the Hon. Treasurer in connection with his report, and arising out of his report.

Mr. STROUD made a short statement in which, after premising that the matter had already come before the Council, he remarked that, as the receipts for the current election of Vice-Presidents. The PRESIDENT, introducing the Council, he remarked that, as the receipts for the current

year were likely to be small, some effort should be made to meet or to reduce expenses. Fellows were scattered, being either engaged on war work or actually at the front, and subscriptions would, naturally, be less than usual. On the other hand, it was most desirable that the Society should be kept going. He had informally suggested to the Hon. Secretary that it would be well to put forward a proposal that the Society should, during the reachest of the secretary that it would be well to put forward a proposal that the Society should, during the war, hold its meetings every other month, in lieu of monthly as heretofore. That course would halve the expenses, and would be better than closing down. The war over, the Society would be able to get on its feet again, and resume the normal practice.

Mr. MACCORMACK referred to the difficulty in procuring papers and subjects for discussion. Confirming the previous speaker, he pointed out that over fifty per cent. of the Fellows were either on active service or doing work at home at home and abroad: those Fellows could not attend the meetings, or only very rarely. He accordingly hoped that the meeting would agree to the

suggestion made.
Prof. Wooldridge felt that the only alternative was that contained in Prof. Macqueen's note, i.e., that the meetings be held in abeyance during the war. The feeling of the meeting was, however, against that alternative, and he thought that, in view of the difficulty of getting full attendances and, mainly, the financial difficulty, that the meetings should be curtailed as proposed.

The CHAIRMAN put the proposal, formally made by Mr. J. Willett and seconded by Mr. Foreman, with the result that it was unanimously accepted.

Mr. McIntosh suggested that the proposal just carried might influence Prof. Macqueen to withdraw his resignation.

The SECRETARY undertook to embody the resolution in the letter which he would send to Prof. Macqueen. Mr. Stroud proposed that the next meeting of the Society should take place in December, 1917, Mr. PARKIN

seconded, and the proposal was carried unanimously. ELECTION OF OFFICERS.

President. The CHAIRMAN, commenting upon the election of a new President, remarked that it was no great honour to ask any man to preside during such a comparatively bad year. It had, therefore, been decided that it was preferable to appoint a Past-President to the Chair, and such a Past-President had been found in the person of Prof. Wooldridge, of whom he might say that the Society had never had a better President during his own rather long experience of it. He was sure Prof. Wooldridge would be as successful in dealing with the existing disadvantageous conditions as he had been in handling the affairs of the Society in more prosperous times. He there formally proposed that Prof. Wooldridge be elected President.

The proposal, having been seconded by Mr. Thompson, was put to the meeting and unanimously carried; where-upon Mr. Roger Clarke vacated the chair in favour of Prof. Wooldridge.

Prof. WOOLDRIDGE, in taking the chair, observed that any reluctance he may have felt to occupying the chair again after so short an interval, was overcome by the difficulties of the situation and the expressed desire of the meeting. He would, therefore, sink his own objec-tions, and would do all he could on behalf of the Society, but in that he must be aided by the attendance, whenever possible, of the Fellows present, and other Fellows whom they might be able to persuade. If it were the intention of the Society that the meetings should be carried on, even on alternate months, he looked to the Fellows to make such meetings as great a success as

out that the existing Vice-Presidents were Mr. W. R. Davis, Mr. G. H. Livesey, Mr. W. Roger Clarke, and Mr. J. B. Buxton. As it was customary for the outgoing President to be the senior Vice-President for the

year, it became necessary to elect three others. The four at present on the list were eligible for re-election.

Mr. Stroud proposed that the Vice-Presidents for the ensuing year be: Mr. Almond, Mr. Livesey, Mr. Roger Clarke, and Mr. Buxton. Mr. Foreman seconded the proposal, which, on being put to the meeting, was carried

unanimously.

Council. The President stated that twelve members of Council were necessary, the composition of the present Council being as follows: Messrs. Foreman, McIntosh; Prof. Macqueen; Messrs. Perryman, Price, Thompson, J. Willett, H. D. Jones, H. King, Parkin, and F. W. Willett.

Mr. J. WIILLETT expressed a desire to withdraw, as a Trustee, from the Council. He would propose Mr. Chamberlain and Mr. W. S. King as nominees for membership of Council, and, should there be an additional vacancy, Mr. Eaglesham.

Mr. Foreman also proposed to withdraw from his membership of Council. It was pointed out that the procedure was covered by Rule 5, in the following terms:—"The officers of the Society shall be elected by ballot annually from the Fellows, and shall consist of a President, four Vice-Presidents, Treasurer, Secretary, and twelve other Fellows, who together shall constitute the Council, and shall have the management of the

Society's affairs.

Mr. Willett, still adhering to his proposal, alluded to the desirability of having new blood on the Council and of affording opportunities to younger Fellows. It was pointed out to Mr. Willett that he would not, in virtue of his being a Trustee, be ex officio a member of the Council. Mr. McIntosh suggested that with the substitution of Mr. Davis in the place of Prof. Wooldridge the composition of the Council should remain as at present. While agreeing with Mr. Willett as to the need for new blood, he considered the time inopportune for introducing alterations. He agreed that Mr. King would be a very useful member, but as a past-President had already been placed in the chair, and there were only five meetings to be held during the year, he deemed it better to let the old members of Council carry on the work for another year, and then admit fresh Fellows to the Council. Mr. Stroud suggested that Mr. Willett should remain on the Council.

It was then put to the meeting that the composition of the Council should remain as present, excepting for the substitution of the names of Mr. Davis and Mr. W. S. King for those of Prof. Wooldridge and Mr. Price

respectively. The proposal was carried unanimously.

Hon. Treasurer. The President formally proposed that Mr. Stroud be re-elected Treasurer of the Central Veterinary Society, having prefaced this proposal by remarking that it would be impossible to obtain a better Treasurer. At the present time the Treasurer met with considerable difficulty, largely owing to the absence of so many Fellows and lack of knowledge as to which of these was liable for subscriptions for the year, since, according to Rules, Fellows on active service were exempt from payment. In spite of difficulties, however, Mr. Stroud had kept the accounts of the Society in an excellent manner, and the speaker thought that it would be a great mistake not to re-elect the present Treasurer.
The proposal was seconded by Mr. J. Willett, and was carried unanimously by the meeting.
Mr. Stroud returned thanks for the confidence re-

posed in him, observing that he had almost completed his eighteenth year as an officer of the Society. He felt that he had used his best efforts in the interests of the Society, and hoped that, whether as officer or not, health the standard set by his predecessors in office, and the

years other claims and considerations affected attendance, but in regard to this matter he would endeavour to do all he could. Despite the small balance in hand, the Society was in a healthy condition. One hundred pounds had been invested in War Loan during the last two years, and this could be drawn on in case of need, but he did not anticipate that it would be necessary. The current year's subscriptions had yet to come in, and sufficient money was in the bank to pay all outstanding

Hon. Secretary. The President: In asking Fellows to re-elect Mr. MacCormack, the speaker said that the prospect of having the assistance of Mr. MacCormack during the present troublesome year had weighed with him in accepting the office of President The Fellows would know what a great amount of work was done for the Society by Mr. MacCormack; how, in fact, with the aid of his great tact, he practically "ran" the Society, rendering the Presidency a virtually nominal office. He felt that it was almost entirely due to the exertions of Mr. MacCormack that the Society had flourished as it had done during the last few years. During the speaker's recent occupancy of the chair, he had found it impossible to over-estimate the help he had received from the Secretary, who had worked ungrudgingly on the Society's behalf. He therefore formally proposed that Mr. MacCormack be re-elected as Honorary Secretary to the Central Veterinary Society.

Mr. PARKIN seconded the proposal, which was unani-

mously carried.

Mr. MacCormack, acknowledging his re-election, disclaimed the eulogies of the President, since it was impracticable for any one man to "run" the Society; the Secretary needed the assistance of all the other Fellows of the Society, and these, he could say, had invariably helped him when approached; even if they had not always taken the speaker's view of matters, they had usually come round in the end. He much hoped that during the present year, which was likely to be a very arduous one, great efforts would be made both to attend the meetings and to submit papers or subjects for discussion. As has been mentioned in the Annual Report, it was not only the successful cases that were interesting; much was to be learnt from those which were unsuccess ful. He trusted that Fellows would support him in the

current session as they had done in the past.

Trustees. The President stated that the existing trustees were Mr. Slococock, Mr. J. Willett and Mr. Stroud, whereupon it was proposed by Mr. McIntosh and seconded by Mr. Buxton that these three gentlemen be re-elected as Trustees. The proposal was unani-

mously carried.

Auditors. The President announced that the existing Auditors were Mr. Roger Clarke and Mr. R. Eaglesham; that, according to the rules, one Auditor must be a member of the Council, a condition at present fulfilled in the person of Mr. Roger Clarke.

Mr. Foreman then proposed and Mr. Thompson seconded that the present Auditors be re-elected. This proposal was put to the meeting and unanimously carried, coupled with the thanks of the Society for their services.

VOTES OF THANKS TO OFFICERS.

The President considered it appropriate, before concluding the proceedings, that the Society should record its appreciation of the services of officers during the past year. He would in the first place, refer to Mr. Nicholson Almond, whose absence that evening he regretted. Notwithstanding the physical difficulties with which members were acquainted, Mr. Almond had been a regular attendant at the meetings, and had, as President, conducted the affairs of the Society in a most excellent manner. Mr. Almond had quite maintained permitting, he would continue to do so. With advancing Society had lost nothing of its lustre by the late Presi-

- Earline

dent's leadership, in spite of the difficulties incidental to the time. He had pleasure in proposing that a most hearty vote of thanks be accorded to Mr. Almond for his conduct of the Society.

This vote was carried by acclamation.

Mr. McIntosh then proposed that a hearty vote of thanks be given to the Secretary and Treasurer for their services during the past year. Mr. J. Willett seconded the proposal, the vote being accorded by acclamation.

HUGH A. MACCORMACK, Hon. Secretary.

CAN THE STERILISATION AND DISTRIBUTION OF THE . FLESH OF TUBERCULOUS ANIMALS BE JUSTIFIED ON HYGIENIC AND ECONOMIC GROUNDS, AND, IF SO, WHAT SHOULD BE DONE IN THE PUBLIC INTEREST BEFORE THE MEAT REACHES THE CONSUMER ?

By A. M. TROTTER, M.R.C.V.S., Chief Veterinary Surgeon to the Corporation of Glasgow.

The Royal Commission appointed in 1896 to inquire into the administrative procedures for controlling danger to man through the use of meat and milk of tuberculous animals reported, "As to the amount and distribution of tubercular disease which justifies the seizure and condemnation of a carcase as unfit for human food the widest discrepancy prevails in opinion and practice. Chaos is the only word to express the absence of system in the inspection and seizure of tuberculous meat, and it has, in our opinion, become necessary that regulations should be formulated for the guidance of those who are concerned in dealing with this subject." The principles, which in the opinion of this Commission should be observed in the inspection of tuberculous carcases, have been issued by the Local Government Boards, and it is upon these that the inspectors of this country base their decision when deciding whether or not the whole or part of a tuberculous carcase is fit for human food. Unfortunately, the mere issue of these recommendations have not brought about uniformity of action, and even to-day there is great diversity of practice. It stands to reason, therefore, that the meat offered for sale throughout the country, may or may not have been prepared from an animal affected with tuberculosis. Every ounce of meat obtained from a tuberculous animal which is passed for human food is sold at the full market value of sound meat without declaration of its blemished origin. It is beyond cavil that flesh prepared from tuberculous animals is now being sold for human consumption to people who for sentimental reasons are opposed to the sterilisation of this flesh.

Can a human contract tuberculosis through the ingestion of meat prepared from a tuberculous animal?

It has been demonstrated that man may become affected with tuberculosis through the ingestion of food containing virulent bovine tubercle bacilli. The flesh of tuberculous animals may be infective through the presence of tubercle bacilli either in the substance or on the surface of the meat. During the process of cooking the organisms adhering to the surface are killed, because they are freely exposed to the actual temperature of the water, steam or air in which the meat is being prepared for table. It must be borne in mind, however, that meat is a bad conductor, and therefore heat penetrates but slowly into the interior. Consequently the temperature of the centre of a joint is invariably much below what is required to destroy these organisms. The ordinary culinary methods cannot therefore be relied upon to render harmless tubercle bacilli in the interior of a joint. The Royal Commission on Tuberculosis

appointed in 1894 carried out numerous experiments, and concluded, "From the results obtained the temperature attained in the centre of a roasted or boiled roll is not sufficient to render the contained tubercular material innocuous when given as food."

Is it possible to sterilise meat prepared from a tuberculous animals so as to render it innocuous?

I was instructed by the Corporation of Glasgow to determine by experiment what changes occurred in meat selected from tuberculous carcases when subjected to a high temperature in a steam steriliser. The apparatus employed may briefly be described as a cylinder 4½ feet long and 1½ feet diameter; the under third being double walled. Steam may be admitted either into the cylinder or into the double walled compartment. In the interior of the cylinder is a movable tray, with a receptacle underneath to collect the juices as they drip from the meat during the process of cooking. A pressure guage and thermometer are attached, so that the pressure and temperature can at all times be ascertained. After the meat is placed on the tray the apparatus is hermetically sealed. The steam is then admitted to the double-walled compartment with the view of facilitating the creation of a vacuum, which is secured by means of an exhaust pump. When the required vacuum has been obtained the steam is admitted into the cylinder, and comes into direct contact with the meat.

Into the centre of the largest piece of meat is inserted a contact thermometer attached by wires to a battery and electric bell. When the temperature in the centre of the selected piece has been raised to the desired degree a contact is formed and the bell rings. After the bell has rung, steam is maintained for fifteen minutes to ensure the process of sterilisation is complete. The contact temperature was in every instance 195° F., i.e., the ascertained thermal death point of bacillus tuberculosis, but as the temperature would be steadily rising during the fifteen minutes of prolonged steaming after the ring-ing of the contact bell it can with all safety be asserted that all tubercle bacilli which may be either on or in the meat have been killed.

The following are particulars of three tests made with meat which had been rejected as unfit for human food

on account of tuberculosis:

Test A. Three pieces of beef, weighing 10 lb., 7 lb., and 6 lb. respectively, were cut from the rump of a bullock in prime condition.

Time in steriliser, one hour forty-five minutes.

Weight before cooking	23 lb
Weight after cooking	164
Loss during cooking	63
Weight of gravy and fat	53
Unrecovered	1

Test B. Three roasts, each weighing 8 lb., were taken from a second-grade cow carcase.

Time in steriliser, two hours fourteen minutes.

Weight before cooking	24 lb.
Weight after cooking	131
Loss during cooking	103
Weight of gravy and fat	81
Unrecovered	$2\frac{1}{2}$

Three pieces each weighing ahout 7lb., were removed from the thick portion of the foreleg of a second grade cow carcase.

Time in steriliser, one hour forty-seven minutes.

Weight before cooking	21 lb.
Weight after cooking	12
Loss during cooking	9
Weight of gravy and fat	$6\frac{1}{2}$
Unrecovered	$2\frac{1}{2}$

^{*} Read at the Forty-third Annual Congress of the Incorporated Sanitary Association of Scotland, at Glasgow.

Bacteriological Examination.

Portions of A, B, and C were submitted to the bacteriologist, who reports as follows :-

"6th December, 1915.

"Cooked Meat.

"The samples of cooked meat submitted by you to be tested bacteriologically as to the efficiency of cooking in producing complete sterilisation have given results as undernoted-

"Samples A and B, received on 4th November, proved quite sterile by ordinary culture tests, and gave rise to no tubercular or other morbid reaction on

"Sample C, received on 5th November, and showing tubercles on pleura over portions of three ribs, also gave negative results when tested in the same manner by culture and inoculation.
(Sgd.) "R. M. BUCHANAN."

The pieces of meat comprising tests A and B were trimmed in the manner which would be practised were the Corporation to adopt this method of treating tuberculous meat, but those forming test C were untrimmed, and in consequence the efficiency of the process was subjected to a severe trial. It will be noted that Dr. Buchanan in his report refers to "tubercles on pleura," but his experiments "gave negative results when tested . . . by culture and inoculation."

The results obtained by Dr. Buchanan are in agree.

The results obtained by Dr. Buchanan are in agree-

ment with those of other investigators.

Can sterilised meat produce disease in the consumer?

The answer to this question is a most emphatic no. Within the past few months those opposed to the sterilisation of meat prepared from tuberculous oarcases have insinuated that disease may arise from the consumption of such meat. It is true that if a person were to be fed exclusively on sterilised meat—or, indeed, any other form of food, e.g., oatmeal—a disturbance of the system would inevitably ensue, but where sterilised meat forms part of a properly balanced diet then no harm can possible of the sterilised meat forms part of a properly balanced diet then no harm can possible of the sterilised meat forms. ibly arise. The opinion of Prof. Bang, the well-known authority on tuberculosis, is of interest-

"Dear Mr. Trotter,

"I am of opinion that there does not exist any reason to believe that it should be dangerous to use for human food a tubercalous carcase of good quality in sterilised condition. This method is used commonly in Germany, and also in many Danish towns, and I have never heard that such food should have been unhealthy.

"Yours faithfully,

(Sgd.) "R. Bang."

Would sterilisation, if adopted, play an important rôle in the economics of the country?

It would undoubtedly be of immense value in populous centres. In Glasgow at least 300 tons could be conserved annually by the adoption of this process. This quantity should be sufficient to provide 2,000,000

The Royal Commission on Tuberculosis, appointed in

1896, in its report states-

"We have been favourably impressed with the value of the peculiar institution known in Germany as the Freibank, and alluded to in the last paragraph. It is a department of the slaughter-house where meat of carcases affected by disease, but not to such an extent as to render it unfit for human food, is exposed for sale. It is sold at about half the market rate in portions not exceeding 10lb. to each customer, either having been sterilised by exposure to steam for half an hour at a possible recrimination.

temperature of 100° C., or, where the quality of the meat is considered to warrant it, in a raw state. butchers, meat salesmen, or restaurant keepers are allowed to purchase at the Freibank, but many poor people, who would otherwise have to go without meat altogether, are able to buy cheap and not unwholesome meat at a very low rate, and the demand is usually found to exceed the supply. Under an efficient system of inspection we regard the Freibank as a most desirable adjunct to a public slaughter-house, and one that would protect the poor from the unwholesome supplies at present obtained in some of our large towns from the lowest class of butchers."

The Commissioners included the late Sir Richard Thorne-Thorne, medical member of the L.G.B. for England; the late Sir George Brown, chief veterinary adviser to the Board of Agriculture; the late Dr. Shirley Murphy-men well known in scientific and professional

circles.

What restrictions ought to be imposed on the sale of sterilised meat

Some nineteen centuries ago the question was asked "Can any good thing come out of Nazareth?" and to day there are those who ask: "Can any good thing come out of Germany?" To both questions an unqualified reply in the affirmative can in all honesty be given. The method of disposing of this sterilised meat as outlined in the report of the Royal Commission on Tuberculosis, as practised in German towns and cities, is worthy of our serious consideration. In my opinion sterilised meat ought only to be sold in premises which have been set apart for this purpose. Its sale could then be controlled and its nature declared. Under these conditions it could not be alleged, as so many sentimentalists contend, that this class of meat would be virtually forced down the throats of the poor. Such an argument is beneath contempt, because it must be patent to all that every purchaser would be a free-will agent.

Ought the sterilisation and distribution of the selected meat be entirely in the hands of the Local Authorities?

No one will, I think, dispute that the selection, preparation, sterilisation, and distribution ought to be supervised and controlled by the officials of the local authorities. It is a moot point, however, whether or not the full responsibility ought to be assumed by the local authority or by the members of the trade. If it is retained in the hands of the local authority it must be frankly acknowledged that the local authority is not entitled to any share of the proceeds realised by the sale of this sterilised meat. All that a local authority can claim and recover are the working expenses and a sum for depreciation. This opens up a difficult problem, i.e., how the funds are to be distributed to the different owners. In all centres—large or small—meat of many grades and, of course, values belonging to different traders would require to be handled. Again, the difficulty is accentuated, because all meats lose weight during the sterilising process, some lose more than others. No doubt the difficulties which I have mentioned are not insurmountable, and a working arrangement could be arrived at with the trade.

The local authority of the burgh of Hamilton has assumed the responsibility, but in the city of Aberdeen the equipment, the working, and the distribution through special premises have been handed over to the Incorporation of Fleshers, but the selection of the meat, as well as the supervision, will remain in the hands of the meat inspection staff. The Aberdeen authorities have certainly rid themselves of much financial responsibility, and incidentally of probable and

PARLIAMENTARY.

In the House of Commons.

SLAUGHTERING DAIRY CATTLE.

Major Hunt asked the Parliamentary Secretary to the Ministry of Food whether he was aware that a numof the best milking cows were bought by dairymen keeping cows in London and the big towns, and that these dairymen refuse to sell these cows back to the farmers, as it pays them better to fatten them off for the butcher; and whether he would take steps to prevent these men having any cows sound and suitable for producing milk killed if under ten years old?

Mr. PARKER: Complaints have been received by the Ministry of Food that, owing to the high prices for fat cattle which have recently obtained, the number of dairy cattle fattened for slaughter has exceeded the normal. But Lord Rhondda is advised that the progressive fall in meat prices, due to the operation of the Meat (Maximum Prices) Order, 1917, together with the permitted increase in the maximum price chargeable for milk from 1st November onwards, will be an adequate check on this practice.

Joint-ill.

At a meeting of the Council of the Clydesdale Horse Society of Great Britain and Ireland, held in the registered office of the Society, 93 Hope Street, Glasgow, on Wednesday afternoon, Oct. 24, Mr. J. Ernest Kerr, of Harviestoun, President, in the Chair, Mr. George A. Ferguson, Surradale, as convener of the Joint-ill Committee, reported that the enquiry was going on very well indeed—much better, in fact, than they had anticipated. The Board of Agriculture for Scotland were prepared to pay half of the expenses of investigation provided these did not exceed £1000. The expenditure to date was only £61.

German use of diseases?

The following passage occurs in "Notes from the Anglo-Russian Hospitals," by Sir Herbert F. Waterhouse, F.R.C.S., W. Douglas Harmer, M.C. CANTAB., F.R.C.S., and Charles J. Marshall, M.S. LOND., F.R.C.S., in The Brit: Med: Jrnl. of Oct. 6.

"One of us (H. F. W.), prior to visiting Russia, had a terrible experience of the wounds caused by bombs dropped from Zeppelins, as he had been surgeon for the day at Charing Cross Hospital when the Zeppelin raid took place in September, 1915. On this occasion 100 patients were admitted into Charing Cross Hospital, of whom fourteen were dead on admission, and nine others died within twelve hours. In every wound examined bacteriologically the Bacillus aerogenes capsulatus was identified. The same organism was found in every case of wound caused by a bomb dropped from an aeroplane admitted into the Petrograd hospital. At the field hospital we had no opportunity of making bacteriological examinations, but, warned by previous experience, we freely opened every such wound and rubbed into the tissues powdered potassium permanganate. The fact that in every Zeppelin and aeroplane bomb wound examined at Charing Cross Hospital and the Petrograd hospital the B. aerogenes capsulatus was demonstrated, makes us suspect that the outer casing of the bomb must have been infected with a culture of this microorganism. If such be the case, science has surely never before been made to serve so fiendish a purpose."

ARMY VETERINARY SERVICE

Buckingham Palace, Oct. 31.

The following Officers had the honour of being received by His Majesty, when the King invested them with the Insignia of Companions of the Orders into which they have been admitted:—

THE DISTINGUISHED SERVICE ORDER.

Major Andrew Spreull, Army Veterinary Corps.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Oct. 27.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Capt. T. G. Millington relinquishes his commn, on acct. of ill-health contracted on active service, and is granted the hon. rank of Lieut. (Oct. 28).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Oct 31

Capt. W. K. Barron to be actg. Maj. whilst employed as D.A.D.V.S. (Oct. 10).

Capt. (actg. Maj.) J. S. Bowden to relinquish actg. rank of Maj. on ceasing to be employed as D.A.D.V.S. (Oct. 2).

The following casualties are reported :-

DIED-Major J. W. Coe, A.V.C.

Lieut. R. H. Wilson, Canadian A.V.C.

OBITUARY.

Young.—On the 20th inst., at 63 Oxford Street, Preston, Elizabeth, widow of the late S. J. Young, M.R.C.V.S., aged 40 years.

The late Major Coe.

Major John William Coe, Deputy Assistant Director of Veterinary Services, died at a Base Hospital in France as the result of injuries sustained by his horse falling with him. He was an ardent volunteer, and responded loyally to the "Call to Arms" in 1914.

When the First Line Division came out to France the important job of organising the Veterinary Services of the Second Line was delegated to him; he was appointed Assistant Director of Veterinary Services, and Maj. Coe himself recruited the Veterinary Staff for this Division. He came out with his Division in February, 1917, and was through the Somme advance. Through the lengthening of the Line of Communications his care and love of horses was thoroughly tested, and he won through. As a man his professional attainments were of a very high order, and his genial manner endeared him to all ranks who had the privilege of knowing him. His loss is deeply felt by his old comrades.

Major Coe's commission with Territorial Force dated from January 20th, 1894; he attained his present rank on April 1st, 1908.

AUTOGENOUS VACCINES.

Dear Sir,—I am being asked from time to time by Veterinary Surgeons if I would undertake the preparation of autogenous vaccines on their behalf. May I use your medium to inform those practitioners who are interested in vaccine therapy that I have now completed facilities for the production of autogenous vaccines on an extensive scale.

Yours very truly,
Friarn House, Bridgwater. WM. Scott.

Contagious abortion-Northumberland.

THE

At a meeting of Northumberland and Durham farmers, held at Hexham, on Tuesday, 23rd October, under the presidency of Mr. Ralph L. Longlands, Stocksfield, contagious abortion was discussed. Sir Stewart Stockman, C.V.O. to the Board of Agriculture, said the most promising method of prevention appeared to be vaccination, accompanied, of course, by the usual methods of disinfection. Vaccine was made at the Board's Laboratory, and he had authority to state that it would be issued gratis to any farmer that applied for it. He, however, suggested the formation of local committees, through which supplies could be obtained from the Board.

Mr. Drury, Secretary to the Hexham Farmers' Protection Association, stated that such a committee would be formed for the Hexham district.

Replying to a question put by Mr. Gibson, Sir Stewart Stockman said it was highly probable that animals once inoculated would be immune from the disease all their

lives. It was hopeless to think of getting rid of every source of infection. They could not dream of eradication, and the only thing to do was to protect themselves against losses.—Live Stock Journal.

ABERDEENSHIRE.

At a meeting of the Executive Committee of Aberdeen County Council the subject of abortion in cattle was under discussion. Mr. Duff, of Hatton, presided.

A letter from the Secretary of the North of Scotland Veterinary Society approved of systematic steps being taken to deal with contagious abortion. They were of opinion that the disease should be made notifiable, and in such a way as to upset as little as possible the cattle breeding and dairying interests in the county, and that the charge might be 1s. per mile and 1s. per animal inoculated.

A sub-committee was appointed to draw up a scheme and approach the three neighbouring authorities in connection with the matter.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

		Anthrax		Foot- and-Mouth Disease.		Glanders.		Parasitic Mange. ‡			Swine Fever.			
Period.			Ont- breaks	Ani- mals.	Out- breaks		Out- breaks	Ani- mals.	Out- oreaks	Ani- mals.	Sheep Scab.	Out- breaks	Slaugh- tered.	
GT. BRITAIN.			-	1	-	1		1		1				
	eek er	nded Oct	. 27	4	4				4	18	26	3	25	6
Corresponding week in	{	1916 1915 1914		16 7 16	19 7 16	12 2	201 16		1 4	13 18	21 30	2 3	59 61 73	30 165 757
Total for 43 weeks	s, 1917			363	415			23	46	2039	3873	420	1888	818
Corresponding period in	{	1916 1915 1914		442 463 610	519 527 668	1 12 24	24 201 124	43 41 83	111 73 259	1317 688 1520	4065 1477 2642	203 165 158	3764 3391 3583	8889 14740 34806

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities. + Counties affected, animals attacked:—Stafford 2, Merioneth 2

Board of Agriculture and Fisheries, Oct. 30, 1917 Excluding outbreaks in army horses.

IRELAND.	Week	ended	Oct,	13							Outbreaks	9	1	2
Corresponding Week in	in J	1916 1915	•••								6	5 5	40 12	
	<u>]</u>	1914					_::_	<u> </u>			8	3	9	
Total for 41 we	eks, 1	917			3	5			1	1	40	311	189	1099
Corresponding period in		l in	(1916 1915		3	7	···		 1	3	56 62	332 326	264 202	1553 1137
			1914		1	1 1	76	957		i	68	419	166	854

Department of Agriculture and Technical Instruction for Ireland. (Veterinary Branch), Dublin, Oct. 15, 1917

IRELAND. Week ended	d Oct. 20							Outbreaks 1	5	1	2
Corresponding Week in	1916 1915 1914		i					2 1	6 7 7	3 7 4	6 58 4
Total for 42 weeks, 1917		. 3	5		1	1	1	41	316	190	1101
Corresponding period in -	$ \begin{cases} 1916 & \dots \\ 1915 & \dots \\ 1914 & \dots \end{cases} $. 1	7 1 1	 76	957	 1	3	58 62 69	339 333 425	267 209 170	1559 1195 858

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 22, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1531.

NOVEMBER 10, 1917.

Vol. XXX.

ROUTINE TREATMENT.

A great deal has already been written upon the treatment of wounds during this war; and a great deal is yet to be written. The war has taught us so much already regarding wound treatments, and probably has still to teach us so much more, that it would be premature to attempt to state its lessons; but one broad moral may safely be deduced from our experience so far:-No routine line of treatment can be laid down as the best for wounds; and no drug can be pronounced the best for all wounds.

This is no new discovery, but simply the demonstration of an old truth that has long been known to some men, though many have never realised it. The situation and nature of the wound, the character of the tissues involved and the degree of damage they have sustained, the amount and kind of subject, and the surroundings, need all to be taken into account before deciding upon the treatment. As we said, this is an old truth; but it is one that needed to be impressed upon some clinicians.

Our profession has always included men whose treatment of wounds was altogether a matter of routine. A special line of treatment was chosen as the best, one drug was fixed upon as the most potent antiseptic; and method and drug alike were applied indiscriminately to all wounds. always a temptation to drift into routine treatments in practice; and both veterinary surgeons and medical men often yield to it, and some become such slaves to routine that they never think of departing from it to meet the special conditions of an individual case. Every practitioner of experience can remember such men; and, though not now so frequently met as they used to be, they are still far from extinct. They and their methods have done not a little to retard our progress; for routine has degraded many a man who might have been a good clinician into a mere rule-of-thumb worker. The man who never bandages a wound if he can help it, the man who always does so when he can, and the one who pins his faith to any particular drug for universal application, all have something to learn.

AN UNREGISTERED PRACTITIONER.

We reprint this week a long, and uninteresting report of a prosecution by R.C.V.S., which is stated to be the first of its kind in Ireland. It is the first in which we remember to have seen the name of a be only moderately severe. practitioner coupled with the College in the prosecution, and thanks are due to Mr. Boyd Gardner of an artery, and shows how slight an hæmorrhage for having taken up the cudgels in defence of the may result from a very severe lacerated wound. profession. The prosecution, based simply on the law, was unassailable. The particular meanness of

this kind of fraud is that it is perpetrated mainly at the expense of the small stock-owner, who is less able to assess the value of the training which the Registered man must possess, and who usually fails to recognise that the system of registration is granted by the State primarily to protect him—the owner, and only in a lesser degree the practitioner of medicine and surgery. The man who keeps and breeds cattle which sell at several hundred pounds apiece knows better than to risk them in the hands of an unregistered practitioner. Is not the small owner's risk the greater of the two?

COMPLETE SEVERANCE OF CAROTID ARTERY WITH SPONTANEOUS ARREST OF HÆMORRHAGE.

The subject was an eight-year-old hunter. The accident occurred from the horse attempting to microbial infection present, the condition of the jump an iron gate, about 6 ft. high, with sharp spikes on top. The horse got on to top of gate: one of the spikes entered near side of neck-about upper part of lower third of neck. The iron spike of gate missed trachea, esophagus, and jugular vein, then passed inwards beneath mastoidohumeralis, sterno-maxillaris, left recurrent nerve, and left carotid artery; came in contact with cervical vertebræ, was deflected outwards and passed out near the crest.

The mastoido-humeralis, sterno-maxillaris, left recurrent nerve, and left carotid were all completely severed.

I saw horse about 1½ hours after the accident happened. The owner had then placed him in a loose box. On examination I found the condition of wound as described. To my great surprise, I found about four inches of carotid protruding from the wound: on taking hold of this a distinct, firm pulse was felt. At this time bleeding had completely ceased, without any manual interference whatever.

The severed distal end of the artery had retracted some distance, and it required the aid of forceps to bring it into view. There was a well-formed clot of about two inches in each end of artery.

Treatment. This consisted in ligaturing each end of artery with catgut, and suturing overlying mus-The animal made a complete recovery.

I think this is a most remarkable case, as one would expect that the horse would have died from hæmorrhage within a few minutes: but judging from the condition of pulse, the bleeding seemed to

It also demonstrates the remarkable contractility

L. C. MAGUIRE, Lieut. A.V.C.

B.E.F.

LECLAINCHE AND VALLÉE'S SERUM IN AN EXCEPTIONALLY GRAVE WOUND.

Choleur has reported this case to the Central Society of Veterinary Medicine. The subject, a mare, had her neck transfixed by the broken part of a coach-pole. The cervical region was completely rigid, and appeared tetanised. A vertical wound existed on each side, one being a little distance from the anterior edge of the scapula and the other in the boundary between the middle and anterior thirds of the neck. These contused wounds were connected by a channel in the thickness of the muscles above the vertebræ, directed obliquely from right to left and from before backward. A careful exploration resulted in the extraction of pieces of torn tissue and a piece of wood the size of

The mare, being very prostrate, was given a preventive injection of 10 c.c, of anti-tetanic serum. The wounds were then cleansed, the channel was irrigated with a solution of eight parts of sodium chloride to 1000 of boiled water, and the serum of Leclainche and Vallée was copiously applied. This treatment, repeated morning and evening, was fol-

lowed until recovery took place.

For the first five days the animal was in a state of great prostration, with pain in the part and some suppuration. Lymphatic cords developed under the skin. The slight ordema that appeared extended up to the head. The temperature was

At the end of six days improvement commenced. The ædema was absorbed, the pain was less acute, the head was held up better, and the suppuration had greatly diminished. The temperature was 101.6° F.

Some days later the most abundant discharge was a clotty yellow viscous liquid. The channel of the wound through the neck had greatly diminished

After twenty days of treatment the suppuration had almost disappeared. The wounds had a very good aspect, and were covered with bright red granulations which precursed a speedy recovery. The temperature was 100.7° F.

After a little more than a month the wound was cicatrised. Fifteen days later the recovery was

complete, and the mare returned to work. It is pointed out that the extensive character of

the wound, the anatomical complexity of the region, the nature of the body inflicting the wound, and the continued exposure of the wound without protection against dust, etc., all suggested a gloomy prognosis for this case which terminated so successfully.—(Revista de Higiene y Sanidad Pecuarias).

TORTION OF THE UTERUS IN A BITCH-SUCCESSFUL HYSTERECTOMY.

R. Cholet has reported the following interesting and unusual case to the Central Society of Veter-

inary Medicine.

The subject was a bitch, four years old. At the beginning of September the owner perceived that the animal was pregnant, but did not know exactly when parturition should take place, as the coupling had not been noted. On September 13th the mam- | Depots at Abbeville, Forges-les-Aux and Gournay.

mæ were swollen; and on the 14th the bitch began to undergo very acute pains, which continued till the 18th. The appetite was almost nil. The vulva was not prepared, and showed no discharge. The cried out continuously. On the 19th the pains appeared to diminish, and the appetite was somewhat better; but the abdomen was swollen, and appeared very sensitive to the least pressure. The milk disappeared.

Cholet first saw the bitch on the 23rd. He found He found her weak, with very pale mucous membranes. The abdomen was very large and extremely sensitive, especially in the left inferior part, which was much more prominent than the right. Vaginal exploration revealed neither a discharge nor a retained fœtus. Cholet diagnosed a dystokia of maternal origin, with metro-peritonitis. Lapara-

tomy was decided upon.

The bitch was anæsthetised with atropo-morphine and chloroform; and, as she was very weak, 100 c.c. of physiological serum was injected. An incision 15 centimetres long was made in the linea alba. When the abdomen was opened a sero-sanguinolent liquid escaped; and a grangrenous uterine horn was seen. A localised peritonitis existed; and the epiploon was very injected. The gravid uterus was adherent to all the neighbouring organs and especially to the bladder. The first work to be done was to destroy these adhesions, which prevented the disposition of the organs from being ascertained. While this was being performed the uterine horn ruptured, and one feetus and the accompanying liquid escaped from it. Finally it was found that the left horn was empty, while the right horn, which contained two fœtuses, was half twisted upon itself. The author gives a figure illustrating the torsion, which he easily reduced by giving the uterine horn a half-turn in the opposite direction. It was, however, impossible to completely rectify the body of the uterus, on account of adhesions which had become established. A total hysterectomy of the body and horns of the uterus was performed, the abdominal cavity was washed out with physiological serum, and the laparotomy wound was sutured.

As the bitch had now become very cold, she was put into a box filled with straw, with rugs, and a kettle filled with hot hot water. She recovered from the anæsthetic very soon, with the face contracted, the mucous membranes very pale, and the extremities cold. An injection of 150 c.c. of caffeinated physiological serum was given; and the results "could not have been better." The next day another injection was given both in the morning and the evening; and a little milk and scrapings of meat were allowed. The general condition improved; and the wound cicatrised, partly by first intention and partly by suppuration.

Fifteen days after the operation the bitch was cured .- (Revista de Higiene y Sanidad Pecuarias). W. R. C.

"A VISIT TO AN ENGLISH VETERINARY HOSPITAL."

In the course of journeys made on official business, I have had occasion to visit the English

The organisations of these hospitals is entirely long. These ropes are held from a distance and different from ours. Each Depot is commanded by a Veterinary Surgeon who is absolute master, and is responsible for the service. All the personnel is under his orders, even the administrative officials, who are generally subaltern officers or N.C.Os. These Veterinary Officers commanding the camps are not necessarily professional soldiers. We have seen in several of these depots Veterinary Officers who were civil veterinary surgeons engaged for the duration of the war-men whose professional status had warranted their being given a rank at once. The camps are established generally in large fields near to a town. An Engineer Officer is attached to the Commandants of several camps, to help in their erection. This officer has full power to hire, to purchase and to build everything which the Veterinary Officer considers necessary for the good working of the service, and that without recourse to anybody, each person being responsible for his

At Abbeville there are two depots; one devoted more especially to surgery, the other to the treatment of skin disease, and in particular to mange. In these two camps the horses are sheltered under large rectangular tents closed only at the two extremities; on the two long sides a cord is stretched for the purpose of preventing the horses from escaping if they get loose. The ground is formed of pieces of timber placed side by side, slightly inclined to the back so that all liquids flow into small trenches dug in the surface of the soil. The very low mangers are made of timber, the upper edge of which is protected by iron wire so that the animal cannot eat it. The wire used is that used to tie up the trusses of hay. The bottom of the manger is formed of beaten earth. There are no racks, but a net bag containing his ration of hay is suspended before each horse. Contrary to what one might believe, these nets, which have very large meshes, are rarely cut by the horses' teeth. As soon as the ration is eaten the stable keepers take away the nets. The horses have no litter; the soil is always kept very clean, and the manure removed from the camp each day. The drinking troughs are of various models, in cement, iron, wood, and even of canvas.

In the surgery section the operating room is a square text closed on three sides. The ground is formed by a thick layer of sawdust covered with an impermeable tarpaulin. The edges of the tarpaulin end at a channel provided for the reception of liquids used in washing and any antiseptics which may escape during the operations. For operations the Veterinary Surgeons wear top boots, overalls, and rubber gloves.

In the treatment of mange, the animals are clipped immediately on arrival, and without further preliminaries they are plunged into the antipsoric solution provided in a dipping bath specially built for the purpose. This bath, which is bordered laterally by two palisades, forms a passage about 30 with which they were always ready to show every-yards long by two broad. As the animal enters a halter is put on, having two ropes about 15 yards Recueil de Médecine Vétérinaire.

help to guide the horse. The animal enters the passage down an inclined plane of about five yards in length, with a very smooth bottom; at the end of this slope the animal falls into the bath which is deep enough to take the animal off his feet. To reach the further slope in order to get out he has to swim about 12 to 18 yards. When he arrives at the top of the slope the horse is allowed to stand a few minutes to shake off the water, which thus returns automatically to the bath. These troughs contain a mixture of quicklime and sulphur in about 3500 gallons of water. The bath is kept at a temperature of from 104° to 109° F. by means of a steam circulation; every day twenty gallons of liquid are added to keep up the proper quantity. With this installation nine men can very easily treat 300 horses per day. The same bath does for 2000 horses. Our English confrères reckon that on an average it takes them a month to treat an animal, and another month to condition him.

Identical installations exist at Forges and at Gournay. At Forges-les-Aux, there are also two camps, one for skin diseases and the other more especially for the sorting, and for the treatment of internal diseases.

Gournay, which is especially a convalescent depot, has also a service for skin diseases.

In these two towns the animals are placed under hangars constructed of wood very economically. The hangars are provided with mangers and racks; the floor is similarly formed of timber lengths placed side by side. The drinking troughs are of various types, as at Abbeville. Each depot possesses a very well fitted pharmacy, and a small laboratory which permits all diagnoses to be made. In these camps very simple forges are included. The shoeing-smith works single handed; the animals are generally very quiet for they are never ill-treated, and one never hears the least cry. Contrary to what one would expect, we never saw grooved shoes

In all these installations, what strikes one immediately is the order and cleanliness which reigns everywhere. Between the stables there are little gardens and lawns exceedingly well kept. The tent cords and the stakes of the hangars are whitewashed, which gives an air of gaiety to the whole encampment. The English soldier, always very encampment. The English soldier, always very ingenious, and having a love of neatness, makes use of all he can find to decorate the camp. The iron wire ties of the hay trusses make him wire railings round the gardens. Empty tins cut and straightened out are used to make shining covers in the kitchens and lavatories, packing cases provide the wood for making all the necessary stores and shelters. All the paper and rubbish is very very carefully collected and burnt in destructors.

In concluding this note we cannot thank too much our English confrères for the very kind welcome they everywhere gave us, and the eagerness with which they were always ready to show every-

DEFINITION OF "VETERINARY SURGEON" IN SOUTH AFRICA.

The Editor The Veterinary Record.

Dear Sir,-The enclosed correspondence is a matter of interest to the Profession, and I beg to solicit the favour of its publication in the columns of your valued Journal.—Yours faithfully,
Jas. IRVINE SMITH, M.R.C.V.S., Colonel.

Johannesburg, 13th September, 1917.

Copy.

P.O. Box 1620, Johannesburg. 24th August, 1917.

The Principal Veterinary Officer, Union Buildings, Pretoria.

Administrator's Notice No. 259, dated 15/8/17. Provincial Gazette, dated 22nd August, 1917.

I beg to draw your attention to the above mentioned Notice appearing in the Provincial Gazette, dated 22nd August, 1917, under the heading of Municipal Pound Regulations, and more particularly to Regulation 2, which defines a Veterinary Surgeon as follows:—

"Veterinary Surgeon" shall mean and include the Government Veterinary Surgeon or Inspector of Stock in those towns where such an officer had been appointed, or if no such appointment has been made, the Magis-

I hereby enter a protest against such a definition, as an Inspector of Stock is not a Veterinary Surgeon, neither is a Magistrate, and I would suggest that you approach the Administrator with the object of having this amended so that a Veterinary Surgeon shall be defined as under :-

"Veterinary Surgeon" shall mean and include any Government Veterinary Surgeon or any Member of the Royal College of Veterinary Surgeons of Great Britain, or anyone possessing a qualification recognised by that institution.

Trusting you will take immediate action.
I have the honour to be, Sir,

Your obedient Servant, (Sgd.) JAS. IRVINE SMITH. M.R.C.V.S.

Johannesburg,

24th August, 1917.

To All Members of the Profession in South Africa. Dear sir,

Administrator's Notice No. 259, dated 15/8/17. Provincial Gazette, dated 22nd August, 1917.

I enclose herewith for your information copy of a letter I have addressed to the Principal Veterinary

As the status of the Profession is at stake, your assistance and co-operation is desired with a view to having this definition amended.

In the meantime it is suggested that you should write a strong protest to the Principal Veterinary Officer, Union Buildings, Pretoria.—Yours faithfully,

(Sgd.) Jas. IRVINE SMITH, M.R.C.V.S.

Copy.

V. 53/1. UNION OF SOUTH AFRICA.

> DEPARTMENT OF AGRICULTURE, Union Buildings, Pretoria. 3rd Sept., 1917.

Jas. I. Smith, Esq., M.R.C.V.S., Johannesburg.

Administrator's Notice No. 259. Provincial Gazette, dated 22/8/17.

Sir,—I have the honour to acknowledge receipt of your letter of the 24th ultimo, in connection with the above-mentioned subject, and beg to inform you that,

whilst agreeing that from a professional point of view the definition given of a "Veterinary Surgeon" is not desirable, I do not think any exception can be taken to it in the circumstances in which it is used. The definition in question includes the Government Veterinary Officer, i.e., the Officer who is appointed by the Minister of Agriculture under the Animal Diseases Act, to carry out the duties of the Stock Disease Regulations, it also includes the Government Stock Inspector and Magistrate, both of which officials are also deputed by the Minister of Agriculture to carry out the duties of a Government Veterinary Officer where no Government Veterinary Officer "Veterinary Surgeon" in the Municipal Pound regulations are solely in connection with the suppression of contagious diseases, the definition used is really the only one that can be used.

I have the honour to be. Sir, your obedient servant, (Sgd.) J. D. BORTHWICK, (Sgd.)

Acting Principal Veterinary Officer.

Copy.

Johannesburg, 4th Sept.

The Acting P.V.O., Union Buildings, Pretoria. Sir,

Re Administrator's Notice No. 259.

I have the honour to acknowledge receipt of your reply, V. 53/1. dated 3rd inst., to my letter of protest of the 24th ulto, re above.

It is a matter of some surprise to receive an expression of two opposite opinions on the same subject from a Member of the Veterinary Profession, holding the important position of Acting Principal Veterinary Surgeon of the Union of South Africa, on such a vital question of Veterinary status which strikes at the roots of the Veterinary Profession.

Your professional opinion seems to be in grave conflict with your official opinion. The former tells you that the definition of a "Veterinary Surgeon is not desirable," while the latter prompts you to say that you "do not think any exception can be taken to it in the circumstances in which it is used," and that "the definition used is really the only one that can be used."

You permit the latter opinion to prevail, for there is no indication that you propose to take any steps to have this grave injustice removed, and, seemingly, you are prepared to accept the position and to allow it to stand irrespective of the fact that it will ever remain on record that during your temporary term of office you acquiesced in the status of a Veterinary Surgeon in South Africa being dragged down to the level of that of a Stock Inspector.

There is no definition of a Stock Inspector, so that a Veterinary Surgeon may in future mean any person. This unfortunate state of affairs may be due to the disastrous trend of current legislation vainly endeavouring to run the afftirs of an enormous country by regulation, but it must be patent to everyone who cares to pause and think, that Veterinary Surgeons cannot be

pause and think, that veterinary Surgeons cannot be created or made by Notices in the Government Gazette by Honourable Ministers or Administrators.

Your official view, however, is in conflict with the recent public utterances of the Honourable the Minister of Agriculture at the Transvaal Agricultural Union Congress held in Johannesburg, and I venture to think that it will be found to be in conscition to the view of the state of t that it will be found to be in opposition to the views of the Honourable Administrator when the matter is placed properly before him. I feel sure that neither of the Honourable Gentlemen entertain the slightest desire to cast any reflection on the Veterinary Profession, and that with proper representations from you the offending definition would be wiped out.

War in which they have done such good service. It is true that they have also successfully combatted the spread of virulent contagious diseases referred to by you, and in many instances have completed controlled and eradicated them. In return for these services you, seemingly, are prepared to permit them to be deprived of their professional status. In doing so I believe you will find that the unanimous voice of the farming com-munity of South Africa will be opposed to you when the position is fully presented to them in its true light. Your definition of a Veterinary Surgeon is not compatible with the ideas of the stock farmer of to day, and I firmly believe that the compactness and traditions of our Profession will render it very inadvisable that they should be antagonised by such ill-considered action.

The definition totally wrecks the four years curriculum and the five examinations laid down by the Royal College of Veterinary Surgeons as the approved standard and test before a Diploma can be granted to a Veterinary Surgeon. This standard is essential for the protection of stock owners' interests as well as the interests of the Profession. The claims of the Profession are a standard qualification by examination.

I do not write thoughtlessly respecting qualifications, and my statements of these will generally be found worth reconnoitring before attacking. You, no doubt, fancy you have strong grounds for supposing me wrong when you seek to invalidate my assertions. You seem to think that under the circumstances no other definition of Veterinary Surgeon can be used, and you state that because a Stock Inspector or a Magistrate can be deputed to carry out some formal duties of a Government Veterinary Surgeon under the Stock Diseases Regulations, this justifies them being termed Veterinary Surgeons under the gazetted Pound Regulations.

You seem to forget that qualification by examination renders such a position eternally impossible. You propose to place the Stock Inspector and Magistrate in a false position and call them Veterinary Surgeons, when it is apparent that the results will be blundering incompetence, chaos, and financial waste. You propose occupying the time of Public Officials who would be more profitably employed in judicial work or carrying into effect the decisions or instructions of duly qualified Veterinary Surgeons.

Copper is an evil when it alloys gold or poisons food: not an evil as copper; good in the form of pence; seriously objectionable when it occupies the room of griposs. guineas. Consider this carefully, and you will feel it yourself every hour of your existence. And if you do not know that you feel it, take up for a little time the honoured trade of a carpenter. Make for yourself a table or a chair, and see if ever you thought any table or chair so delightful, and what strange beauty there will be in their crooked limbs.

There is only one definition of a Veterinary Surgeon, whether he be a Government Veterinary Surgeon or a Civil Veterinary Surgeon, and that is a Member of the Royal College of Veterinary Surgeons, or anyone possessing a qualification recognised by that Institute.

I have the honour to be, Sir, your obedient servont, JAS. IRVINE SMITH, M.R.C.V.S. (Sgd.)

> P.O. Box 1620, Johannesburg. 7th September

To all Members of the Profession in South Africa. Dear Sir,

Administrator's Notice No. 259, dated 15/8/17. Definition of "Veterinary Surgeon."

In continuation of my circular letter to you, dated 24th ulto., I enclose herewith, for your information, copies of further correspondence on this subject.

To my mind there is only one attitude for the Mem-

bers of the Profession to adopt throughout Africa, and that is no compromise on a question of this kind.

I now suggest that you forward your authority to the President of the Transvaal Veterinary Medical Association, P.O Box 877, Johannesburg, to protest in your name, so as to enable him to carry on the necessary legitimate campaign until this offending definition is wiped out.—Yours faithfully,

JAS. IRVINE SMITH, M.R.C.V.S.

VETERINARY STUDENTS AND ARMY SERVICE

We are informed that the following letter has been addressed by the President of the R.C.V.S. to The Secretary of State for War, The Minister of National Service, and the Director-General A.V.S

10 Red Lion Square, W.C., 13th October, 1917.

Sir,
I am directed by the Council of the Royal College of Veterinary Surgeons to draw your attention to the fact that, owing to the number of Veterinary Students who enlisted as combatants in 1914 and 1915, and to the enlistment under the Military Service Acts of all Veter-inary Students in the first and second years who are of military age, the country, already suffering from a dearth of qualified Veterinary Surgeons, is threatened with a still more serious state of things in the near future.

The following figures show the number of Veterinary Students who have joined the colours after passing their first professional examination:—

Second year	Students	67
Third year	,,	18
Final year	,,	5
		-
		00

It will be seen that as many as 90 students out to the small number in attendance at the Veterinary Schools have had their course of study interrupted and the date of their qualification consequently postponed. In the case of the second year students the earliest date of graduation will be three years after the conclusion of hostilities.

The following figures show the number of students at present in the schools :-

Due for exami	ination:	Dec., 1917.	July, 1918.
First year	•••	24	37
Second year		20	17
Third year		20	28
Final year		39	29

It follows that, even if these students were allowed to remain at College, and assuming that they were all successful, the maximum number of graduations would be as follows:

Dec., 1917	39	July, 1918	29	Total	68
1918	20	1919	28		48
1919	20	1920	17		37
1920	24	1921	37		61

These figures must be reduced by at least 25 per cent. to allow for failures.

The average death-roll for many years past has been 75, but since 1914-15 the number entering the profession has been much below this figure. In 1914-15 there were 77 graduates, in 1915-16 there were 56, and in 1916-17 there were 57. It is obvious, therefore, that the number of qualified Veterinary Surgeons has been diminishing by about 20 a year, and the number of new graduates entering the profession in the next few years will be about 30 per annum below the number required to replace deaths, retirements, etc.

As a matter of fact, however, an increased number of Veterinary Surgeons will be needed after the war, in order that the work required under the Public Health Acts, the Milk and Dairies Acts, the Tuberculosis Order, etc., may be properly carried out. The State Veterinary Services of the Board of Agriculture and Fisheries and the Department of Agriculture and Technical Instruction for Ireland have long experienced great difficulty in obtaining a sufficient number of properly qualified men.

As recently as August, 1912, a Departmental Committee was appointed to inquire into the requirements of the public services with regard to the employment of officers possessing veterinary qualifications, and to consider whether any further measures could be adopted for the selection and training of students for such employment. The Committee reported (Cd. 6575) "That the number of suitable candidates for appointments in public veterinary services is inadequate," and "That a largely increased number of veterinary officers possessing special qualifications will be required for the public

Veterinary Officers are also required for the Colonies, of Contagious Diseases of Animals, e.g., Swine Fever, Foot-and-mouth Disease, Glanders, Anthrax, Sheep Scab, etc., is of such vital importance that it is absolutely essential to provide for an adequate number of fully qualified men each year for this work. In addition the general practitioner as a factor in the conservation of food supply and the maintenance of agricultural progress and prosperity must not be lost sight of.

The Council recognise that, in a sense, everything is of secondary importance to winning the war. They would, however, point out that the number of men involved is so small as to be practically negligible from that point of view. On the other hand, if the small num ber of Veterinary Students mentioned could be retained, and allowed to qualify, it would make all the difference to the carrying on of the work of the Veterinary Pro-

fession after the war.

The Council, therefore, desire earnestly to press upon your attention the importance of safeguarding the supply of qualified Yeterinary Surgeons in the near future, and to this end they strongly recommend :-

1. That all Veterinary Students who have passed their first examination now serving with the Navy or Army as officers or privates should be demobilised to continue their studies.

2. That no Veterinary Student at present registered as in attendance at one of the five affiliated schools who has completed his first year of study should be called

up for service with the colours.

As the Veterinary Schools begin their new session in October, and at least 30 weeks instruction must be given before students can be presented for examination. it is extremely important that an early decision be made, so that the students who return to their studies may not be at a disadvantage.—I am, Sir, your obedient Servant, FRANK W. GARNETT,

President, Royal College of Veterinary Surgeons.

ARMY VETERINARY SERVICE

Buckingham Palace, Nov. 7. The following had the honour of being received by The King this morning, when His Majesty, invested them with the Insignia of Companions of the Orders into which they have been admitted :-

THE DISTINGUISHED SERVICE ORDER. Colonel WILLIAM PALLIN, Army Veterinary Corps. Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Nov. 1.

REGULAR FORCES. ARMY VETERINARY CORPS. Lt.-Col. (temp. Col.) A. C. Newsom, c.m.g., from A. V.C. to be Col. (Sept. 23).

Maj. (temp. Lt.-Col.) W. B. Edwards to be Lt.-Col. (Sept. 23)

Temp. Capt. H. C. Bowes, F.R.C.V.S., to be actg. Lt.-Col.

(with pay and allowances as Capt.) (Oct. 1).
Temp. Lts. to be temp. Capts.:—E. S. W. Peatt (Sept. 11);
W. R. McKinna (Sept. 18);
W. S. Gillespie (Oct. 1);
H. P. Welbanks (Oct. 16).

Capt. R. L. L. Hart, E. Afr. Vety. Corps, to be temp. Capt. (Oct. 8).

Temp. Lts. to be temp. Capts.:—S. S. Herbert, J. N. Glass (Oct. 16); N. B. Green (Oct. 18).

Nov. 3. Late temp. Lt. to be temp. Lt.: -B. Whittam (Oct. 17). Nov. 5.

Capt. M. P. Walsh retains the rank of temp. Major on appt. as A.D.V.S. (Sept. 4, 1916).

India Office, Nov. 2. INDIAN CIVIL VETERINARY DEPARTMENT. Lt.-Col. to be Col.:—J. Farmer, C.I.E., F.R.C.V.S. (July 20). Maj. to be Lt.-Col.:—G. K. Walker, C.I.E., F.R.C.V.S. (July 20).

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

H. C. Jagger, Major A.V.C., A.D.V.S.	£1	1	0
E. Morgan, Venezuela, S. America	1	1	0
W. Nairn, Blairgowrie	1	1	0
G. Rees-Mogg, Major A.v.c.	1	1	0
F. C. Scott, Lieut. A.v.c.	1	1	0
H. H. Truman, March, Cambs.	1	1	0
Previously acknowledged	906	10	0

In the issue of Oct. 27, by an accident, the amount against the name of Mr. W. Willis appeared as £10, instead of £10 10s. The total was correct.

Prosecution by the R.C.V.S.

At Balbriggan Sessions, last week, before Messrs. A.S. Hussey, in the chair; L. W. White, F. J. Flannagan, T. Ennis, and Col. Woods, the Royal College of Veterinary Surgeons, of Red Lion Square, London, and W. Boyd Gardner, M.R.C.V.S., Drogheda, prosecuted Edward B. Burke, Fancourt, Balbriggan, for that said defendant not being on the Register of Veterinary Surgeons, and not holding at the time of the passing of the Veterinary not holding at the time of the passing of the Veterinary Surgeons Act, 1881, the Veterinary Certificate of the Highland and Agricultural Society of Scotland, did unlawfully use and take an addition of "V.S." thereby stating he was specially qualified to practice a branch of the veterinary surgery contrary to the aforesaid statute.

Mr. Tallan for complainants; and Mr. C. Friery for

defendant

Mr. Tallan said that the defendant, who was a travel. ler for the Gresham Publishing Company, used the letters "V.S." after his name, thereby implying he was a veterinary surgeon. The defendant came to the district travelling for a firm of book publishers, and subsequently came into Balbriggan. He established himself as a veterinary surgeon, and went round the neighbour-

hood healing horses and cattle, receiving fees from farmers in the district. It was very difficult when such knowledge reached the College to sustain a charge on verbal evidence. The defendant in this case had such a sense of security in his own mind that he described himself "Edward B. Burke, V.S.," on a cheque to his landlady. The cheque was drawn on the National Bank, Cahir, and the manager of that branch, who was in Court, would identify defendant's handwriting. He intended to corroborate his case by producing certain men in the district whose cattle defendant attended, and men to whom he described himself as a veterinary surgeon. The cheque paid defendant by one of these men for services rendered was endorsed "E. B. Burke, V.S., and that together with the one paid to his landlady is in our possession. According to the Act, any person so misrepresenting himself was liable to a fine not exceeding £20, or imprisonment in default. Some of the men who engaged the defendant suffered very severe losses in cattle. One witness would tell the Court that defendant, who came to see a beast of his, took a long thing like a telescope from his pocket, put it to the cow's side, and said it had a large portion of a boot inside it (laughter). Defendant gave some injection, perhaps for the purpose of absorbing the boot, but the beast died. He operated on a bull calf for another party, and some days afterwards came back, opened the stitches to see if the job was complete, and the result of this was that this beast also died. These were serious losses to people, and taking into account the great shortage of the times, the offence was a very serious one, and he asked that a severe penalty be inflicted.

Mr. Friery said the man was entitled to do all he did. Mr. Tallan: If he represents himself as a V.S. he comes within the law, and my point is that he has done this. His name is not contained in the Register.

W. Boyd-Gardner stated he was a veterinalry surgeon practising in Drogheda, and had a branch in Balbriggan district as well, and he knew the defendant, Burke, by appearance. In his profession the letters "V.S." stood for veterinary surgeon.

Cross-examined, witness said that prior to the passing of the Act of 1881 a person might describe himself as a V.S. had he been practising, but after that an examination had to be passed, and then the person was permitted to register himself as a veterinary surgeon. Questioned by defendant's solicitor as to whether he knew the late Mr. Thomas Montgomery, of King's Inn

Street, Dublin, witness replied that he did not.

Mr. Friery: He was practising as a V.S. at the time of the passing of the Act though he was only a shoeingsmith.

Miss Bridget Murray, Fancourt, said her sister kept a lodging house and defendant paid her (witness) for lodgings with a cheque for £1 5s. The cheque (produced) was the one tendered by defendant, and which witness paid over to Mr. Griffin, of Messrs. Flower and McDonnell's.

Cross-examined: Her sister did not keep cattle. Mr. Tallan said that cheque was endorsed "E. B.

Burke, V.S."

Mr. Friery: "Very sorry." (Laughter).

Chairman: It could mean "very successful."

Mr. Friery: It does that, and I will prove it by innumerable witnesses.

Thomas Griffin identified the cheque (produced) as

the one given him by Miss Murray.

Mr. J. Dunlea, manager of the Cahir branch of the

National Bank, was next examined as to the identifica-tion of defendant's handwriting.

Asked if Burke had an account in that bank, the witness said he was bound to secrecy and could not answer the question. Afterwards he said he had, and the sig nature on the cheque in Court was the defendant's.

Cross-examined: Several of his cheques went through was not a vet.

the bank from time to time, and witness often saw the letters "V.S." on them.

A young lad named Christopher Warren, who stated that he lived with his father at Grallagh, gave evidence to the effect that the defendant attended a pony of his father's. The pony was in a stable, covered with rugs, and defendant gave him an injection and threw cold water over him, and ordered him to be put in a stable where there would be no noise. (Laughter). He said the pony had lockjaw. On the occasion of defendant's second visit the pony was worse, and he gave him another injection, and the pony died a week afterwards.

Cross-examined: He never saw a case of it before. John Warren, father of the last witness, said he saw defendant treat the pony on the second occasion. He "injected" something into his neck, got a bucket of soapy suds, to which was added linseed oil, and this was injected into the pony. He did not order any medicine, but left some "balls" to give the pony. and witness paid a chemist the price of the "balls" left. After the pony dying, witness saw Burke, and he told him he would not charge anything for the services rendered the pony.

Andrew Kavanagh, another witness, employed Burke to see a mare of his. Burke told him that if he wanted him at any time, "Burke, V.S., Balbriggan," would get him. He paid several visits to the mare and ordered medicine. Witness paid him 25s., for which he got a receipt signed "Prof. E. B. Burke." In addition to this, witness paid 37s. for medicine.

Cross-examined: The mare was cured. Mr. Tallan: With the assistance of another vet. John Thornton stated Burke treated a bullock of his which was ill. He examined him by "putting some class of a glass to him, and said he had double pneumonia and half a boot in his stomach. (Laughter).

Mr. Friery: That's not unusual. Mr. Tallan: I understand that portion of a lady's garment was found in another animal.—That's not unusual. (Laughter). The unusual thing is to see through a bullock. (Laughter.)
Witness, continuing, said defendant treated the bullock a complete frience.

lock a couple of times. After the second visit the animal got worse, and on the third occasion Burke said it was usual to take a bad turn. The bullock died a month afterwards. Defendant also attended a bull calf of witness's. He operated on the animal on a Saturday, and on the following Wednesday he came, opened the wound and threw eight buckets of water into it. As a result of this the bull died eleven days afterwards. Witness asked him to make a post-mortem. Witness paid him £1 over the bullock and 5s. for treating the bull. He ordered the bullock new milk, eggs and whiskey every morning. (Laughter). Mr. Tallan: Egg flip.

Mr. Friery: Are you sure you did not take this your-self instead of giving it to the bullock? (Laughter).

Witness: Of course I am.

James Sherwin said that Burke called on him and asked if he had any cattle sick, and witness said he had one. He asked Burke if he was a V.S., and he replied that he was. He prescribed for the bullock and it died two days afterwards.

Cross-examined: He called at witness's place, but he had no books with him then. He did not say that he represented a publishing firm for books which contained valuable information on the treatment of animals, nor did he say that he could give demonstrations. The bullock had an ulcerated stomach. Witness did not know that defendant was very successful throughout the country in his treatment of cattle.

Mr. Tallan: He was most successful in the treatment

of your case.

Witness said he made enquiries, and found defendant

John Murray, Skerries, said that Burke did some veterinary work for him for which he paid him. He supplied him with some books, and said he could get his (witness's) son into Maguire and Gatchell's, a Dublin engineering firm. Witness made enquiries and found

that the defendant was not known to that firm at all.

Cross-examined, witness admitted that he had a grievance against the defendant over that. He treated his cattle successfully. He said that all he had to do was to take witness's son by the hand and leave him in Maguire and Gatchell's. (Laughter).

This was all the evidence.

Mr. Friery submitted that his client committed no offence in doing what he did. He was entitled to act as he did, and if he used the letters V.S. it was in glorification of himself. He cited the case of the Dental Association against a man who posed as a dentist, and used the words, "Mr. Byrne, the world's expert in the treatment of teeth," which was decided in his favour, and said it was analogous to the case now being heard. The signing of "V.S." after his name was a mere glorification of himself, and he might as well have put solicitor after it, and it would not do any harm. He should have done something germain to the office of solicitor before it constituted an offence. There was no one more jealous than a solicitor, and if a man wrote solicitor after his name there was nothing in that to sustain a charge against him.

Mr. Tallan: There is nothing honourable in the title of solicitor. We can't get solicitor's fees unless we have

solicitor's degrees.

Mr. Friery: I have no answer for such a vulgar tongue. (Laughter). He submitted "V.S." after his name was only a distinguishing mark, so that letters might reach him. His client was very skilful in his treatment, and senting himself to be a Veterinary Surgeon.]

he (Mr. Friery) could bring dozens of witnesses to prove his expertness in these matters. By doing what he did he might have interfered with Mr. Boyd Gardner, he might have deprived him of a few fees, but that was all, and that was the root of the case. He knew something of these diseases, and he knew that when certain of them attacked animals all the veterinary surgeons from Fair Head in Antrim to Mizzen Head in Cork, including Mr. Gardner, could not cure them.

Mr. Tallan said this was the first case of the kind in Ireland. Defendant could, if he wished, go through the country as a "quack," but he was not entitled to hold himself out in any way that would lead the public to believe he was a veterinary surgeon. He asked for a

conviction, for the offence was a serious one.

The magistrates retired, and after a brief consultation, returned, and the Chairman announced that having considered the case carefully they were unanimously of opinion that an offence was committed, and they decided to impose a fine of £10 on defendant.

Mr. Tallan asked for costs, which was granted. Mr. Friery informed the Bench that he would take the earliest opportunity of having the decision reviewed.

The Drogheda Advertiser.

HENRY VIRTUE SIDDONS, who was committed to the Liverpool Assizes on charges of forging medical certificates and obtaining money by false pretences, has since committed suicide. There were nine charges in all in the calendar. Siddons had been allowed bail in the sum of £1000.

It appears that this is the man who appeared at the Over Petty Sessions, at Winsford, on Nov. 10, 1902, on a summons by the R.C.V.S., and was fined £5 for repre-

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.	
Period.		Out- breaks	Ani- mals.			Out- breaks (b)	Ani- mals.	Out- oreaks	Ani- mals.	Sheep Scab.	Out- breaks	Slaugh- tered.		
GT. BRITAIN.				<u> </u>		i		1		, ,	-	1 1	7 100	1
	Week e	ndcd No	v. 3	5	5				2	29	49	5	18	3
Corresponding	1	1916 1915		11	17 15	8	33	1	1	14	27 36	2 1	39 59	21 197
week in	1	1914		10	11		00	3	6	10	011	i	99	702
Total for 44 weel	ks, 1917			368	420			23	48	2068	3922	425	1906	821
Corresponding	1	1916		453	536	1	24	44	112	1331	4092	205	3803	8910
period in	1	1915 1914		477 620	542 679	20 24	234 124	86	73 265	703 1520	1513 2642	166 159	3450 3682	14937 35508

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. firmed. (b) Reported by Local Authorities. + Counties affected, animals attacked:—Stafford?. (a) Confirmed. (b) Reported by Local Authorities. Board of Agriculture and Fisheries, Nov. 6, 1917 Excluding outbreaks in army horses.

IRELAND. W	Veek	ended	Oct,	27					l		Outbreaks	7	1	6
Commonding V	Week	J	1916 1915							•••		12	7	21 21
Corresponding Week in	m 1	1914					<u> </u>			i	4	2	9	
Total for 43 week	ks, 19	17			3	5			1	1	41	323	191	1107
Corresponding period in	in -	$1916 \\ 1915$		3	7				3	58 62	350 340	274 216	1590 1216	
		1914		1	1	76	957			70	429	172	867	

Department of Agriculture and Technical Instruction for Ireland. (Veterinary Branch), Dublin, Oct. 29, 1917 As diseased or Exposed to Infection Note.—The figures for the Current Year are approximate only.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1532.

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NOVEMBER 17, 1917.

VOL. XXX.

PROGRESS.

Few, perhaps, realise how far the profession in England still is from attaining its maximum of general efficiency in the subjects in which it justly claims to have made the most striking progress during the last generation. In pathology, bacteriology, and sanitary science we have made great advances. For many years past we have possessed men whose knowledge of these subjects would bear comparison with that of any foreign veterinarians, or any specialists in the medical profession here or abroad. But, if we review the conditions under which most of these men graduated and subsequently advanced to specialism, we shall find good cause to prophesy a considerable future elevation of our general professional standards.

Most of our ablest pathologists graduated in times when the standard of pathological and bacteriological teaching in our schools was generally below that of medical schools. The same could be said, perhaps more forcibly, of our best specialists in sanitary science. Such masters of meat inspection as Mr. A. M. Trotter and the late Mr. James King, qualified before meat inspection had even been included in our school curriculum. Broadly speaking, the men who have done most to bring our pathology, bacteriology, and sanitary science to their present level began under difficulties far exceeding those of this century's graduates. The schools gave insufficient instruction in these subjects before graduation, and no post-graduate training at all; and men aiming at specialising in them had to find ways of their own to do it.

To-day, these subjects are well taught in the ordinary curriculum: and post-graduate courses—suspended temporarily by the war, but to be resumed afterwards—provide more detailed instruction. The Diploma of Veterinary State Medicine, with its additional requirements for training, is our last step forward in specialisation.

The great improvement in our ordinary curriculum is barely twenty-five years old. Post-graduate courses are a more recent innovation; and the regulations for the Diploma in State Medicine have not yet commenced working. When these factors have been in full work for a generation, the result will be a further considerable advance in efficiency. We know what has been done by a few men, not one of whom had anything like the opportunities for advanced study which every future student and young graduate will enjoy. That should suggest something of what we may expect in time, when it will be true to say that every veterinary surgeon, whatever his age, has had a college training worthy of his profession.

OTACARIASIS AND THE PROPHYLAXIS OF PSOROPTIC MANGE.

Henry, in January last, made an important communication upon this subject to the Central Society of Veterinary Medicine. Psoroptic otacariasis is a classic affection in the rabbit and goat; and Henry states that it also attacks the horse, ass, mule, and sheep. He gives an account of the condition in the four latter animals.

Henry has found this condition in 71% of the carcases of horses which had died from various affections. Afterwards, having learned to recognise the external signs of otacariasis in the living horse, he found the disease in 42% of the horses on the sick-list of a stud of stallions.

Almost always both ears are affected. The disease remains localised in the deepest part of the external auditory passage; to demonstrate it in the dead subject it is necessary to cut into the ear at its base. The bottom of the auditory passage is occupied by a plug of a greyish-yellow colour, formed by a mixture of cerumen and epidermal scales. This plug varies in size; and upon its surface are more or less considerable colonies of psoroptes, which are easily recognised by the naked eye as whitish motile specks. The skin of the part is red and oozing.

This plug of cerumen is not special to otacariasis; for irritant causes of all kinds may provoke its formation. It is necessary to ascertain the presence of psoroptes before affirming the existence of otacariasis. The psoroptes of the ear do not appear to differ from those which produce the mange of the body.

Symptoms. The disease is never visible at the exterior; but some signs may denote its existence. The most evident of these is pruritus. This is far from being permanent; it is seen especially in warm stables or when the horses are placed in the sun, and is manifested by a more or less violent agitation of the head or of the ears. When the horses are close to a projecting hard body they rub against it the base of the ear, which corresponds externally to the superior parotid region; and these rubbings are so frequent that they end by leaving evident traces, which can be recognised. may vary from a simple disturbance of the hairs, or their removal, to superficial wounds or callosities. A more rare sign of the pruritus is rubbing with the corresponding hind foot. Pinching the base of the ear with the hand usually gives a precise indication; some horses show pleasure at the manipulation, others fear and resist it.

The otacariasis appears to be as frequent in summer as in winter.

Henry has never established the presence of disturbances of hearing; but it appears probable that a more or less complete deafness exists, from the plug of cerumen interrupting the transmission of sound.

The disease is rarely grave in its results. Henry has never seen suppurating otitis, otitis of the middle ear, epileptiform attacks, meningitis, etc., which are observed in the otacariasis of the carnivora and

Diagnosis. Diagnosis by direct examination of the parasites or of the lesions is practically impossible, on account of the conformation of the ear, so that the diagnosis must be based upon the pruritus, or upon the traces of rubbings left on the superior parotid region. A similar pruritus is observed in otosimuliasis; but this disease is seen exclusively during the warm periods of summer or autumn, and in horses which frequent moist pastures.

Treatment. It is sufficient to secure the horse with a twitch, and pour into the ears an active anti-psoric liquid, which is non-irritant and capable of soaking into the cerumen. Henry has found a tepid aqueous emulsion of creosol in a strength of 2% to 3% the best agent; for if the emulsion is fresh it kills the psoropts almost instantaneously. The treatment should be repeated two or three times at intervals of eight days, so as to destroy the new generations as they are hatched. A quantity of 50 c.c. of the fluid for each ear is sufficient.

The Ass. Henry has observed one case in a young ass. This terminated fatally, in consequence of being complicated by an intra-cranial abscess.

The Mule. The symptoms are the same as those shown by horses; but the disease appears to be less common in mules.

The Sheep. This affection has been observed not only by Henry, but also by Roubaud and Van Sacheghem. Its characters were identical with those of the disease seen in the goat. The ears were filled with compact greyish-yellow crusts, very anfractuous, in which the parasites were found.

Prophylaxis. As otacariasis plays a very important part in preserving the psoroptes and propagating psoroptic mange, the following rule should be observed. No batch of herbivorous animals of any species receptive to psoropts should ever be introduced into a stable without minutely examining the ears, or better, as it is not always possible to recognise otacariasis externally, without systematically dressing the ears with a psoropticide. Henry believes that the observance of this rule would greatly limit the propagation of psoroptic mange.—(Revista de Higiene y Sanidad Pecuarias.

W. R. C.

UREMIA OF ACARIAN ORIGIN IN HORSES.

The condition described in this note has been observed in horses affected with generalised mange.

It has appeared to us for some time past that the mortality we were observing amongst these rather from the effect of an infectious malady of a

tors have led us to conclude that the acarus can be alone capable of producing the complications experienced:—(a) Absence of fever; (b) Mortality limited exclusively to animals suffering from generalised mange, in spite of the proximity in which they were placed to other non-affected horses; (c) Complete disappearance of mortality after the sale of those generalised cases. To us there is no doubt that our horses were dying of uremia, yet it was not exclusively a uremia but an intoxication of a complex nature, of which uremia played the most important rôle.

This notion of an uremia of acarian origin has been, if not inspired at least confirmed, we believe, by an article entitled "L'albuminerie Scabique," in Journal de Médecine et de Chirurgie pratiques.

Madame Dr. Uebersfeld in her thesis on this subject, at Lyons, 1917, has produced an interesting work, from which we quote the following passages;

(a) Scabeic albuminuria is not so frequent as some authors suggest, yet its incidence is by no means to be neglected.

(b) It appears in the following two forms: Slight albuminuria, passive or transitory; and true nephritis, either grave or mild.

(c) The clinical course of this nephritis and its prognostic importance are in all respects the same

as a nephritis developed from a chill.

(d) This scabeic nephritis may be complicated with a grave uremia as the two observations quoted

(e) From a consideration of the work one may conclude that a true scabeic albuminuria occurs, which must not be confused with physiological albuminu.ia; or with that resulting from drugs, or Bright's disease, which one might meet with amongst scabies patients.

Of different forms mentioned by Madame Dr. Uebersfeld we have only observed the grave nephritis, usually fatal—at least under the conditions

in which our sick were placed.

We have never met with amongst horses a light, passive, albuminuria, of which she speaks: at the same time we won't say it does not exist. Amongst our affected, other complications, although resulting from acari indirectly, were aggravating this uremia

SYMPTOMATOLOGY. Changes observed in the urinary system. These changes are relative to the quantity and quality of the urine. Oliguria and anuria are two conditions which are very obvious when following these cases. The colour usually dark, and of thick oily consistency, the urine frequently contained albumen (eight times in twenty samples examined) and usually also biliary pigment (eighteen times in twenty samples examined). The urinary deposit was very abundant. Microscopical examination was not carried out.

Debility. The debility appeared to be preceded by oliguria; it is rapid or slow, depending on the course of the disease: it might attain an extreme animals was resulting not merely from mange, but degree. One most curious change of the amyotrophie appeared to be the form of the tail under the typho-anæmic nature. The following varying fac- influence of irregular atrophy of the coccygeal muscles: it became flaceid, tortuous, presenting often in its length four or five curves in different directions.

Temperature. As a general rule the complications occurred without appreciable elevation of temperature. In some cases only we have seen the thermometer rise from time to time to 39.2 and 39.6, without apparently the course of the malady being influenced by these rare and fugitive febrile

We have met with also the following manifest-

ations:-

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Digestive system. The appetite was maintained during a great part of the course of the condition. Usually it only disappeared in the last stages. In some cases, but rarely, we have observed diarrhoea. We have never noticed that the dejections diffused on appreciable fœtid odour.

Respiratory system. As a general rule the respiratory rhythm to us appeared rather slow, We have observed on the other hand the following changes: Œdema of the lungs in two cases; the respiratory rhythm irregular, approaching Cheyne-Stokes breathing in one case; the respiratory rhythm very slow but regular in two cases (six movements in one of the affected, seven in the appropriate treatment.

other); pulmonary congestion in three cases.

Nervous system. The change most frequently met with was a comatose form. Three cases presented choreic movements. In one they were localised to the neck, left side, to the left shoulder, and to the left side of the thorax, In a second, they were exclusively placed in the muscles of the left side of the face. In a third, they were generalised. Meningo-encephalic symptoms were observed in two subjects, which presented the following changes: blindness, deafness; in these cases there was often attempts to walk forward in an automatic manner and then fall. Another case showed during the termination of its illness, contraction of the muscles of the neck to the left, irritant action on the kidneys. pirouetting of the eyes.

Lesions. The only constant lesion which we have remarked during our post-mortem examinations were situated in the kidneys. These organs always showed congestion and were hæmorrhagic. Often the copsule was easily detached from the cortical zone. In some cases we have found pus in

the hilum.

Other organs:-We observed congestion of the lungs, cedema of the lungs, hæmorrhagic spots disseminated on the whole course of the small intestine; congestion of the meninges and of the brain.

PATHOLOGY. What are the causes of the

renal changes to produce this uremia?

Madame Dr. Uebersfeld suggests the three following factors:—(1) Cutaneous irritation producing a reflex action which modifies the renal circulation and brings about functional disturbances more or less grave; (2) The existence in some cases of a true toxi-infectious nephritis; (3) That the venom secreted by the acarus may possibly be implicated in the renal changes must not be overlooked.

There is nothing to show that the same causes are not to be found in the horse, and with aggravation in proportion to the extent of the mange. In the worst cases of mange the overwork to which the kidney is subjected on account of the disorganised skin function will be a contributary cause to the alteration. Also the uremia is aggravated in these animals by auto-intoxication arising from non-function of the skin, and in certain cases by movements. As a general rule the temperature drug-intoxication. Here lie, probably, the three oscillated between 37 and 38.6 C.

> COURSE OF THE MALADY. The condition may be terminated by a cure under the influence of appropriate treatment. The course of the malady shows itself rapidly or slow. Some subjects become debilitated and die in a few days. Amongst others the course is not so rapid and may be prolonged over one or several months.

> TREATMENT. Treatment should be on the following lines :-

> 1. Endeavour to remove from the skin the impurities with which it is soiled and which take away its suppleness.

2. Destroy the acari.

3. Combat the intoxication by diet, hygiene and

To destroy the acari, we prefer baths or acaricidal solutions, or sulphur gas. To us it appears preferable to avoid the use of greasy applications and irritant mixtures, especially for badly affected

One combats the intoxication by the administration of milk when that is available. The diet for the sick should be choice, rich, and abundant; mashes with boiled linseed added are to be recommended: green fodder ration would be extremely advantageous.

As a diuretic the acetate of ammonia may be used with profit. We avoid systematically the use of all drugs, internally or externally, which have an

Hygiene generally, and hygiene of the skin are valuable adjuncts to treatment, and should never

be neglected.*

* Prof. Nicolas, of Lyon, and one of his pupils, Dr. Mathieu, have found 16 cases of albuminuria in 101 cases of scables. Other authors, for instance Boas, have had in their researches almost negative results. Madame Uebersfeld, pupil of Dr. Nicolas, has found 17 cases of albuminuria in 260 examined. Our researches, limited to a small number of cases—carried out on 20 animals affected with generalised mange—have permitted us to find albuminuria in eight; which represents 40%. Vety.-Aide Maj. LENEVUE, at the Vety. Hospl. at Vernon (Eure), in Recueil de Médecine Vétérinaire.

At the first British races held at Baghdad, on Sept. 1st, the winner of the steeplechase, two miles, was Major Daniel's "Flying Hackle"; she was trained and ridden by Capt. T. Lewis Wright, A.v.c., late of Putney. There were 16 runners.

ITCH, OR MANGE, OR SCAB.

The disease is caused by mites belonging to the family Sarcoptide. The family is divided into several genera, and in response to requests as to the differences between these genera I append two tables, which I have repeatedly proved helpful in my work.

Three generic names are well known to the veterinarian—namely, Sarcoptes, Psoroptes and Symbiotes or

Chorioptes.

Each of the three is the cause of a mange of its own, and the same animal may in some cases be affected with all three manges—e.g., the horse, ox, and sheep may suffer from sarcoptic, psoroptic, and chorioptic mange, and the dog and cat from two different kinds of mange.

The three mites can be distinguished under the micro-

scope as follows:-

the best known and most troublesome species being the cause of "sheep scab."

Reciprocates (Symbiotes) Stalk and sucker on all

- B. Chorioptes (Symbiotes). Stalk and sucker on all the legs in the case of the males; stalk and sucker on 1st, 2nd, and 4th pair of legs in the case of the females. The stalk is short and the sucker wide. The chorioptic mange mite is parasitic on mammals, e.g., is found on horse, ox, sheep, goat.
- C. Otodectes. Stalk and suckers on the front pairs of legs in the case of the females. This mange mite is parasitic on mammals, and is the cause of otodectic (chorioptic or symbiotic) mange of the ears of dogs and cats.

At the present time, in war conditions, when mange, or itch, or scab is common, in some cases very common,

Sarcoptes.

Body round.

A short, wide beak.

Legs short: the four front legs spring from the edge of the body, and are visible from above; the four hind legs arise from the under surface, and are almost concealed from above by the body when the mite is resting or walking.

The farthest out portion (tarsus) of the leg bears an unjointed stalk, ending in a small sucker.

The mites mine into and make galleries beneath the skin.

Psoroptes.

Body more oval. More pointed beak.

Legs longer; all four pairs visible from above, as they project from the sides of the body.

The tarsus bears a threejointed stalk with a sucker.

The mites do not burrow, but live in parts sheltered by hair and wool, and under crusts. Symbiotes (Chorioptes).

Body more oval.

Beak obtuse, and as wide as long.

Legs long; all four pairs visible from above.

The tarsus bears a short, unjointed stalk and a wide sucker.

The mites live more exposed.

In ordinary practice this key will be found sufficient, but the specialist who at the moment has to examine and report on many cases of mange requires a more detailed key to the family Sarcoptide.

Specialised work on these mange mites has resulted in the genus Sarcoptes being broken up into various genera, and the genus Chorioptes is also subdivided.

The mange mites being very minute, practically invisible to the naked eye, or just visible in the largest species, the key is useless unless the microscope is used.

Detailed key.

- I. Male destitute of copulatory suckers in the neighbourhood of the anus. The two first pairs of legs have a stalk ending in a sucker in both sexes; and in the case of the male there is a stalk and a sucker also on the fourth pair of legs, viz.:—
- A. Sarcoptes, with the anus terminal, The sarcoptes mange mites are parasitic on mammals, e.g., the mange mite on man—so troublesome at this time to many of our soldiers—and the sarcoptes of the horse and dog.
- B. Notedres, with the anus dorsal. This mange is also found on mammals, e.g., the cat.
- II. Male with or without copulatory suckers; the male has stalk and sucker on all the legs; no stalk and sucker on legs of females, viz.:

The genus *Cnemidocoptes*, parasitic on birds, e.g., the cause of scaly leg, and deplumating scabies.

III. Male furnished with copulatory suckers; stalk and sucker present on the legs.

A. Psoroptes. Stalk and sucker on the 1st, 2nd and 3rd pair of legs in the male (the 4th pair of legs is rudimentary or very short).

Stalk and sucker on the 1st, 2nd, and 4th pair of legs in the female.

The stalk in the psoroptic mange mites is long and three jointed.

The psoroptic mange mites are parasitic on mammals

it is important to keep in mind how infectious the disease is, and the possibility of the disease passing not only from man to man—as it so readily can do in the sarcoptic scabies of human beings—but from domesticated animals to man.

The sarcopt of the horse passes readily to ass and mule, and is transmissible to man. In the past year I seen several such cases. The sarcoptic mange of the cow can also pass to man; I have also seen cases of this. The sarcopt of the dog is communicable to man, as is also the mange of the cat.

Demodectic or Follicular Mange.

This is a different kind of mange, due to an extremely minute mite which, when isolated and magnified under the microscope, is seen to have an elongated wormlike form.

The disease is worst on dogs, and seems practically incurable if before treatment the disease has made progress. I have seen cases where treatment, extended over many weeks, failed in result.

The Demodex mite of man and of domesticated animals other than the dog, does not call for lengthy note, but I wish to record a demodex case on the horse associated with psoroptic mange of the horse.

Scrapings from the withers of a horse suffering from mange had been taken for microscopic examination. In addition to the mange mites a number of demodex mites

were present.

This corresponds to observations made by my colleague, Prof. Linton, who in 1915 in sarcoptic mange scrapings from horses found and showed some demodex mites. These cases are interesting, inasmuch as previous records of demodex on the horse relate to its presence only in the meibomian glands of the horse, and the muzzle of the horse. In 1916 a case was reported by Urbain from Brazil, where a man received demodex infection in treating a horse suffering from demodectic mange.

The natural size of the mite is about one-hundredth of an inch.

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WHAT IS

These mites, after pairing, lay their eggs, from which hatch larvæ with six rudimentary legs or tubercles; after a moult the six-footed larva becomes a nymph with four pairs of tubercles. Still another moult results in a stage with developed mouth apparatus and jointed legs. Development of the several organs marks the adult stage.

The above notes are taken from an article by Prof. MacDougall, Royal (Dick) Veterinary College, that appears in the recently issued transactions of the Highland and Agricultural Society of Scotland.

PPVCS

"Tips" on Camels for Veterinary Surgeons on Active Service. By A. S. Leese, M.R.C.v.s., Temp. Capt. A.V.C., formerly Camel Specialist to Government of India, 1907 to 1913, and to Government of East African Protectorate, 1913-14. Demy octavo. 50 pp. Price 2/6 net. (Bailliére, Tindall, & Cox, 8 Henrietta Street, Covent Garden, London. 1917),

This little paper-bound volume is a reprint of a series of articles upon Camel diseases which originally appeared in *The Veterinary Journal*. The author apologises for their insufficiency on the ground that they were written from memory in the absence of notes and records; but many veterinary surgeons will find them extremely useful. They are written for professional readers only, a fundamental knowledge of the principles of veterinary medicine and surgery being presupposed. Sarcoptic mange, for some not clearly apparent reasons, is deliberately not described, but merely mentioned as "the second camel disease in importance." With this exception, all the common illnesses and surgical affections of the camel, with some uncommon ones, are dealt with. Most of them are treated very briefly, while those affections which are special to the camel, and those in which the anatomical and physiological peculiarities of the animal create special conditions, receive fuller consideration. The more general portion of the work will be useful to some veterinarians; the last-mentioned specialised portion will be really valuable to a large number. The sections upon camel trypanosomiasis, some surgical conditions, peritonitis, and diseases of the nervous system, may be mentioned as likely to be especially helpful. There is so much special knowledge regarding camel diseases, and so little of it has hitherto appeared in print, that there was real need for its publication in book form. There is room for a much larger work upon the subject, which the author is well qualified to write. In the meantime he has done the profession a useful service by producing the present small one. W. R. C.

Mice and Disease in Horses

Report at request of Warracknabeal Agricultural Society, Victoria, Australia.

The mare, the property of Mr. Murray, examined by me on his farm, to-day, shows unmistakable symptoms of a disease which has been fairly prevalent in this district recently, and closely resembles diseases occurring in other [countries mentioned in various text-books as meningitis, spinal meningitis, and cerebro-spinal meningitis.]

It it not new to Victoria, having been discovered in this district about twelve years ago, when working in

conjunction with my son, now Capt. J. Barnes of the A.V.C. At that time there was an alarming mortality amongst horses on certain farms in the Minyip, Boolite and Areegra districts. Our investigations resulted in a diagnosis of the apparently mysterious disease known as spinal and cerebro-spinal meningitis. In spinal meningitis the symptoms are confined mainly to the function of locomotion, while in cerebro-spinal meningitis the brain is also affected, resulting often in staggers and delirium. In both cases the animal may be down and unable to rise, but in the latter (cerebro-spinal) this is accompanied by muscular twitchings of greater or less violence, throwing about of the head, and other symptoms of brain disorder.

The earliest symptoms noticed in some cases are digestive disturbance, loss of appetite, frequent yawning and slight yellowness of the white of the eyes. There may be symptoms of colic, a discharge of mucus, or frothy saliva from the mouth, accompanied or followed by gradually increasing dullness and dayression.

lowed by gradually increasing dullness and depression. No farm in the district can be said to have escaped a visitation of mice this year in altogether unprecedented numbers. A close inspection of haystacks is not necessary to enable one to see havock wrought thereto. Looking closer in and seeing the evidence of mouse occupation one can somewhat realise the amount of germ life that will be present in the spots of contamination by mouse excreta, not to mention dead bodies. Mouse urine is known to be thick and viscid. This, on the hay, is a very suitable material for the growth of disease producing germs. I am quite positive that these germs are the cause of spinal and cerebro-spinal meningitis in a great many mice that I have seen so affected, in and around various stacks. These mice may be seen dragging their hind legs, running sideways, in circles, and tumbling about as in delirium. Feeding hay, thus contaminated, to horses will probably be productive of symptoms already described and many cases will terminate fatally.

Treatment. In the majority of cases the disease is well established when the animal is first seen to be ill: in these cases treatment does not yield very good results. Others show mild symptoms of spinal meningitis only: these, if allowed to go untreated, may develop cerebrospinal meningitis. Early treatment must be adopted. Potassium iodide has been recommended, and if given in two dram doses three times a day, on the appearance of the first symptoms, may have a good effect.

of the first symptoms, may have a good effect.

But each case must be treated according to the set of symptoms shown: there is no hard and fast treatment that will suit all cases. Preventive measures must be given priority—the aim must be to destroy the causative germs.

Badly soiled hay should be rejected altogether and burnt. All fodder that mice have had access to should be steamed, so as to thoroughly destroy all disease producing germs. A substitute for actual steaming is to place the required amount of fodder, say—chaff, oats, and bran, in a stout wooden box or trough; pour a sufficient quantity of boiling water all over it, then cover well with bags and allow to stand for six hours. At the expiration of this time it may be fed in usual quantities in the usual way.

James Barnes, Veterinary Surgeon.

Minyip, Aug. 2nd, 1917.

[The coincidence of disease in mice and horses appears to be established, but the causation is not fully traced. Why, for instance, may not a vegetable constituent of the hay be a cause common to both?]



A cartload of mice (16½ cwt.) caught in one night, in kerosene tins, around wheat stacks at the Railway Station, Minyip, Victoria, Australia. Photo sent by Mr. James Barnes, V.S.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Nov. 10.

REGULAR FORCES. ARMY VETERINARY CORPS. Nov. 15.

Col. (Hon. Maj.-Gen.) Sir R. Pringle, K.C.M.G., C.B., D.S.O., is placed on retired pay on vacating the appmt. of Dir.-Gen. (Oct. 11).

Temp. Capt. T. G. Millington relinquishes his commn. on acct. of ill-health contracted on active service, and is granted the hon. rank Capt. (Oct. 28) (substituted for the notification in the *Gazette* of Oct. 27).

Temp. Lt. to be temp. Capt.:—J. Forbes (Oct. 16).

Nov. 12.

Temp. Lt. F. R. Shippard relinquishes his commn. on acct. of ill-health (Nov. 13).

To be temp. Lt.: -G. H. Meick (Oct. 25).

Nov. 13.

To be temp. Lt.:—A. A. Hayman (Oct. 25).

Nov. 14.

The following Capts. relinquish the rank of temp. Maj. on ceasing to be empld. as Comdts. of a School of Farriery:—C. A. Murray (Apl. 20); A. S. Lawrie (June 27).

Capts. to be actg. Majs.:—A. S. Lawrie (July 4); C. A. Murray (Aug. 12).

Temp. Capt. W. J. Moran is dismissed the Service by sentence of a Gen. Court-Martial (Oct. 1).

CANADIAN A.V.C.

Temp. Lt. to be temp. Capt.:—A. Savage (Feb. 15, 1916) (substituted for *Gazette* notification of July 10, 1916, incorrectly specifying date as March 13, 1916).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Nov. 1.

Capt. (temp. Maj.) J. A. Connell to be Maj. (Oct. 28).
Nov. 2.

Capt. J. G. McGregor relinquishes his commn. on acct. of ill-health, and is granted the hon. rank of Capt. (Nov. 3).

The following casualties are reported:-

DIED—Cpl. S. Lawton, 10335 (Pitsea).
DIED as Prisoner in Turkish hands—Sh.-Smith W. H.
Dickens, 6848 (Daventry), Hsrs. attd. A.V.C.

Personal.

Capt. W. D. Halfhead, A.v.c., who was wounded on July 22nd last, is now serving with the Mesopotamia Expeditionary Force.

At a meeting of the Derby Town Council, on Friday last, Nov. 9, on the motion of Mr. E. Chambers, Mr. ALEXANDER LEVIE, Veterinary Surgeon, Derwent Street, was elected a Councillor for Derwent Ward.

Castle.—On October 30th, at Holly Lodge, Ipswich, to the wife of Capt. A. Frank Castle, F.R.C.V.S., A.V.C.—a daughter.

VETERINARY SURGEON ELECTED MAYOR.

The election of Alderman Chambers as Mayor of Dudley, was moved by Alderman Thompson, who spoke of the work Alderman Chambers has done on the Health Committee, and the tactful way he has discharged the duties as Chairman of the Food Control Committee.

The resolution was supported by Alderman Cook and seven or eight other members, and carried with acclamation.

After taking the oaths, the new Mayor said he would endeavour to discharge the duties impartially. He spoke of the great strides made in Public Health, particularly in consequence of the adoption of the deep drainage schemes, and said his one ambition for the future lay in the direction of better housing. After the war they would have to turn their attention to clearing away congested and insanitary areas.

Commenting on this election, The Dudley Chronicle says:—"Yesterday (9th inst.) the town did honour to one who has served it well in a quiet, unostentatious way for a great number of years—Alderman T. Chambers, M.R.C.V.S.

Alderman Chambers is one of the oldest members of the Town Council. He was first elected in November, 1892, exactly twenty-five years ago. In 1896 he was elected an Alderman, while for 15 years he has been Chairman of the Health Committee, in which position he has done valuable work, especially in the matter of the deep drainage, which has culminated in practically every house in the borough being connected up. This has resulted in a considerably decreased death-rate.

Alderman Chambers has also been a magistrate for many years. He is senior past-master in the oldest Freemasons' Lodge in the county, No. 252 Harmonic, and twenty-six years ago, while passing through the chair, he opened the Godson Lodge at Oldbury.

As a rider to hounds, he is well known, first becoming associated with the Albrighton Hunt when Sir Thomas Boughey was master. He rides regularly now with the Albrighton Woodlands.

By instinct and profession the new Mayor is a lover and an authority on horse flesh. He is a well-known veterinary surgeon, and has held the presidency and the secretaryship of the Midland Veterinary Medical Association. He was at one time an owner of race horses, but, as he himself puts it, 'they didn't do him much good.' On one occasion, however, he won a good race at Four Oaks, with a horse named 'Student.' For eighteen years he was in the Dudley Yeomanry, and at the sports arranged in connection with that organisation he carried off in his day most of the coveted prizes.

Mr. Chambers has three sons serving the country. The eldest came from Chili at the outbreak of the war, and left the army through wounds. He is now at the Admiralty. Another son is a major serving abroad, and a third holds the modest rank of sergeant."

OBITUARY.

FREDERICK ULYSSES CARR, Lt.-Col. A.V.C., late P.V.O., Khartoum, Sudan.

Graduated, Lond: Dec., 1893.

Lt.-Col. Carr died at the 3rd London Genl. Hospital, on Saturday last, 10th inst. Interment at Haworth on Thursday, 15th.

LISTER SWANN, M.R.C.V.S., King's Lynn.

Mr. Swann died 2nd Nov., 1917, aged 70.

D. ROWLANDS, M R.C.V.S., Llanrhaiadr, Denbighshire. Edin: April, 1864.

Death occurred on 11th November, at the of age 79.

The death is announced of Dr. August Lydtin, Geheimer Oberregierungsrat, Karlsruhe, in his 84th year.

Dr. Lydtin was elected an Honorary Associate of the Royal College of Veterinary Surgeons in 1880. He was also an Honorary Member of the 10th International Veterinary Congress and President of the Permanent Committee.

Lt. F. Brown, Northumberland Fusiliers, is officially reported killed in action on Oct. 26th, during the recent advance of the British troops in Flanders. He was the only son of Mr. Frederick Brown, veterinary surgeon, 15 St. Thomas Street, Newcastle. He was educated at Dame Allan's School, Newcastle, and subsequently joined the staff at Burclay's Bank. He was posted to a branch appointment at Ponteland, and afterwards transferred te Alnwick, where he was located for two years prior to entering the Army. His age was 22.

FEES PAID BY INSURANCE COMPANIES.

Dear Sir,-I have just received the enclosed communication, to which I have promptly replied that my fee for motoring out a distance of five miles, examining a horse as to soundness, and reporting upon the sanitary condition of the premises in general is one gulnea. A similar request from another Company also lies on my desk and will receive like treatment. Is it not about time our profession made this sort of thing impossible?

I am, dear Sir, yours faithfully, Jersey, 5 Nov. R. J. G. Voisin, F.R.C.V.S.

> "Royal Exchange Assurance, (Accident Deptmt.) Southampton, 2nd Nov., 1917.

R. J. G. Voisin, Esq., Veterinary Surgeon.

Dear Sir,-We shall be glad if you will kindly examine on our behalf a mare named 'Coquette,' the property of Mr. G. Guyon, Farmer, of Les Ruisseaux, St. Brelade.

We enclose a form for your report on same, and on receiving it duly completed we shall be pleased to forward you the usual fee of 5/- .- Yours faithfully,

G. L. THYNNE, Manager."

SUBSCRIPTIONS TO THE R.C.V.S.

Dear Sir,-Will you give a list of the Members of Council who have contributed their subscription to the R.C.V.S.? There are some names I have failed to find in your weekly list, but as these are names I have always looked up to as belonging to men of high-standing and worth in the profession, and who could not withhold their names or their guinea unless there was a very good ceason, I have similarly withheld mine. Such a list may also be useful in the formation of future Councils.-Yours truly,

Nov. 13th. OBSERVER.

A Correction.

Dear Sir,-I wish to correct a newspaper error in my evidence at recent prosecution at Balbriggan Petty Sessions. I am reported as having stated, "prior to the passing of the Act of 1881, a person might describe himself as a V.S. had he been practising, but after that an examination like to be passed and the person was permitted to register himself as Veterinary Surgeon."

This is an erroneous report. What I did say was: "Any

person who had been practising veterinary surgery for a number of years prior to the passing of the Act of 1881, ould, on the the passing of that Act, get himself registered as an Existing Practitioner on payment of such fees and other matters as the Royal College of Veterinary Surgeons decided on." This will be seen in Veterinary Surgeons Act 1881, 44 and 45 Vict., Chapter 62, par. 15 (i).

I hope the Secretaries of the Veterinary Societies in Ireland will take a note of this case for future reference. Kindly give this space in this weeks' issue of Veterinary Record.—Yours sincerely, W. Boyd-Gardner. Drogheda, Nov. 13.

Serum treatment for Contagious Abortion in Scotland.

The Fife Local Authority recently passed a resolution asking the Board of Agriculture and Fisheries to make an Order prohibiting the sale through public auction

marts of cows which had aborted.

The Board, in reply, states that Mr. Prothero considers it very questionable whether an Order of the nature suggested could of itself achieve the purpose in view, and in this connection points out that with a view to preventing the spread of abortion in herds in which cases of the disease have actually occurred the Board is prepared to supply anti-abortion vaccine for inoculation of the non-pregnant cows in the herd to the owner of the herd on application to the Board through his veterinary surgeon. The material will be supplied free of charge except for carriage.

Dr. J. McI. McCall, Assistant Veterinary Officer of the Board, later visited Fife, calling on the Depute County Clerk and the Chairman of the Local Authority, pointing out that a report by the County Veterinary Inspector for Ayrshire showed that the vaccine treatment had been most successfully carried out there. This was the third season in which this work had been tried in that county. During the first year 400 cattle were vaccinated; during the second over 600; and some 2500 were

treated this year.

Mr. Lees, presiding at a meeting of the Local Authority of Cupar, commented on the situation, and said that, in view of the facts pointed out by the Board, he thought they should not press for an Order, but should proceed to secure the benefit of the free vaccine offered for dairy keepers in the district. Kirkcaldy was the chief dairying centre, and Mr. Aitken, M.R.C.V.S., their veterinary Inspector there, was particularly well qualified to carry out the scheme. He mentioned a case where the treat-

ment had been tested on 17 heifers. Eleven of these were inoculated with the serum, and all carried their calves, while six which were not so treated aborted.

Mr. J. M. Smith, Cults, observed that Ayr and Lanarkshire had taken it up on the lines suggested. These were the big dairying counties, and Fife could not do

better than follow their lead.

It was agreed to inform dairymen and others whose herds might be affected that the serum could be obtained on payment of the carriage thereon, and that the local Veterinary Inspector would carry out inoculation.

The proposed Joint-ill enquiry.

The first meeting of the Board of Directors for the year 1917-18 was held Chambers of the H. and A. S. of Scotland, 3 George IV. Bridge, on Wednesday, 7th inst. Mr. Charles Douglas, D.Sc., of Auchlochan, Lesmahagow, presided. The Secretary reported that the replies receive from the various breed societies to the enquiry addressed to them as to whether joint or navel-ill was prevalent amongst animals of the breed with which they were concerned, and if they would be prepared to participate in the inquiry. In the case of the Border Leicester Sheep Breeders Society, the secretary wrote that joint-ill was fairly prevalent amongst pure-bred lambs of that breed, and that the society thoroughly approved of the enquiry being extended as proposed, and, in the event of that being done, the society would be responsible for £50 meanwhile, and power had been given the Council to increase that sum somewhat in the event of such being required. The following societies did not see their way to participate in the inquiry:—The Shorthorn Society, the Aberdeen-Angus Society, the Galloway Cattle Society, and the Suffolk Sheep Society The following societies had not replied:—Ayrshire Cattle Herd Book Society, Blackface Sheep Breeders' Association. Cheviot Sheep Society Highland Cattle Association, Cheviot Sheep Society, Highland Cattle Society, Oxford Down Sheep Breeders, and Shropshire Sheep Society. The committee recommended that in view of the replies from the various cattle and sheep breed societies, and the apparent want of interest in the subject, the matter be deferred for future consideration

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.	
Period.			Out- breaks (a)	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.	
Gт. BRITAIN. Week	r. BRITAIN. Week ended Nov. 10			7	7					26	35	6	20	8
Corresponding week in	{	1916 1915 1914		10 17 11	12 17 11	11	161	1 2	3 4	15 12	23 18	5 3 6	63 68 88	37 238 540
Total for 45 weeks, 1	917	•		375	427			23	48	2094	3957	431	1926	829
Corresponding period in	{	1916 1915 1914		463 494 631	548 559 690	1 31 24	24 395 124	44 42 88	112 76 269	1846 715 1520	4115 1531 2642	210 169 165	3866 3518 3770	8947 15175 36048

[†] The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive
(2) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Nov. 13, 1917

Excluding outbreaks in army horses.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1533.

NOVEMBER 24, 1917.

VOL. XXX.

THE BRADSHAW LECTURE,

Early this month, the Bradshaw Lecture was delivered before the Royal College of Surgeons by Sir John Bland-Sutton, F.R.C.S., The lecturer, in addition to being a celebrated surgeon, has long been known as an authority upon comparative anatomy and pathology; and he drew freely upon his studies in these directions to provide materials for his discourse. The result was a lecture of high scientific interest and suggestiveness; but its perusal inevitably awakens some discouraging reflections in the minds of veterinary readers.

The subject of the lecture was "Misplaced and Missing Organs." This opens up a vast field, only a few portions of which could be handled in the space of a single lecture. The lecturer was sufficiently catholic in selection, drawing his subject-matter partly from observations upon man, partly from veterinary science, and partly from general

zoology Early in the lecture a case of a cervical heart in a calf, observed by a French veterinarian, is described; and it is added that "the details are given with great care in the Revue Vétérinaire, 1902.' Later, there are some interesting though brief references to the absence of the right ovary and oviduct in hens; and these are immediately followed by much longer sections upon mastoid teeth and bicephalous animals, which conclude the lecture, and perhaps form the most important portion of it.

Thirty-five years ago, the lecturer was keenly interested by a horse's skull with supernumerary teeth in the mastoid region, which he observed in the museum of the Alfort Veterinary College. He describes the clinical condition, known to many veterinary surgeons, which mastoid teeth cause in horses, and the method of removing them. For many years he remained puzzled by these mastoid teeth; and, after obtaining some fresh evidence in the shape of a specimen from a sheep with attached tissues resembling a gum and lower lip, he had reached definite conclusions regarding their origin from a study of double-headed animals. He describes a number of these with more or less detail, some being accessory heads or portions of heads attached to the cervical region in ruminants and communicating with the pharynx, and some doubleheaded skulls conjoined in the mastoid region. Comparing these skulls with the equine mastoid teeth and the accessory heads of ruminants, he finally reaches the following conclusions (in which the italics are his). "The critical study of a done by both English and foreign medical men and the skulls leaves no escape to the following conclusions of the skulls leaves no escape to the final study of a done by both English and foreign medical men and the skulls leaves no escape to the final study of a done by both English and foreign medical men and the skulls leaves no escape to the final study of a done by both English and foreign medical men and the skulls leaves no escape to the skulls leaves no escape. large number of such skulls leaves no escape by some foreign veterinary surgeons - but not from the conclusion that mastoid teeth and an by English ones. auricular sinus in horses, like a cervical ostium and

teeth in a sheep or an ox, are remnants of an accessory or parasitic head. Mastoid teeth are memorials of a lost individual." Then, after a description of a most curious case of a monstrous pig dissected by himself, in which rudimentary maxillae and a mandible were hidden in the head in a manner which would have baffled many a dissector, he brings the lecture to a close.

This is an interesting piece of work, reflecting great credit upon its author; but from one point of view it is depressing. The lecturer derived much information, which he fully acknowledges, from Continental veterinary work and a Continental veterinary museum. He has himself done much work independently; and for at least one of his specimens he was indebted to the interest in teratology of a British medical man. But there is no word in the lecture of any communication with or any assistance gained from veterinary surgeons in this country; and no one who knows the English veterinary attitude towards this subject will be surprised. Broadly speaking, there is hardly any subject pertaining to veterinary science, and not one of the fewer subjects which may rightly be called common ground for the medical and veterinary professions, regarding which British veterinary surgeons concern themselves so little as teratology.

Our journals contain many reports of "monstrosities," which might pose as teratological records; but of what use are they? Practically all have been so carelessly dissected, and are so briefly and vaguely described, that the result is absolutely valueless. No case requires greater anatomical knowledge and more minute care for its investigation, and more

accuracy for its description.

One good teratological record, to the merit of which we drew attention at the time, appeared in these columns a few years ago. It had been carefully dissected and was well and clearly described; and the value of the result rendered the worthlessness of other English veterinary teratological reports more evident. Its author was then a young country practitioner in England, whose opportunities were no better than those of hundreds of This illustrates what might be his colleagues. done if our members were to take a serious interest in teratology, in which many of them have as good opportunities for observation as any men in the world. One worker in this field is not likely to accomplish very much; many workers may accom-

TREATMENT OF TETANUS.

I have lately read with interest several communications in your journal respecting what may well be termed the expectant treatment of equine tetanus.

I have practised in a "tetanus district," Southern New Jersey, U.S.A., since 1879, and have during that time treated many cases of the disease. My experience with drug treatment has been bad; with the antitoxin treatment better; with the immunising treatment best.

I divide equine tetanus into three distinct

classes :-

a. Incubation very prolonged, tetanic symptoms slight, ability to eat preserved in some degree, with more or less difficulty in progression. Some of these cases have been driven to my office for diagnosis.

These cases recover without any treatment whatever. Either resistance to infection is very great or the invading bacilli form a very mild toxin. A

quiet disposition aids in recovery.

b. The incubative period varies from 8 to 14 days; tetanic spasm is well marked, but may be localised in special muscular groups, elevation of the tail proceeds slowly, the ability to take food and masticate it, though impaired, remains in degree.

Many of these cases recover under large dosage with tetanus antitoxin, 12 to 30 thousand American units daily, until a slight favourable change occurs, or, conversely, until the practitioner realises the treatment is useless. To this treatment may be added warm rectal injections and an ounce of fluid extract of hyoscyamus three times daily per orem.

c. Cases where the incubative period is five days or less, the symptoms developing rapidly; total inability to take food and marked salivation; add to this picture marked nervousness, and the

prognosis must be fatal.

I find that horses standing quietly in slings get great comfort, and the danger of premature decubitus from fatigue during the early days of improvement is obviated. (If a recovering case of tetanus lies down much difficulty in flexing the limbs on rising may be experienced, bring on spasm involving the respiratory muscles and so cause a fatal ending to an otherwise promising case).

A prolonged experience justifies the statement that 500 units of tetanus antitoxin administerd within forty-eight hours of the reception of an injury will almost invariably afford full protection, and as the cost is small it is good practice to repeat

the injection in ten days.

I tell my clients that the antitoxin offers the only reasonable assurance of recovery, that it will cost them a good sum in a few days, with maybe no benefit; and let them go in with their eyes open. In this way I avoid censure in those cases ending fatally.

I may add that my results are quite good enough

to justify the gamble.

THOS. B. ROGERS, D.V.S.

Woodbury, N.J., Oct. 29.

ABSTRACTS FROM FOREIGN JOURNALS.

TREATMENT OF ULCEROUS LYMPHANGITIS BY BACTERIO-THERAPY.

Fuche has published a noteworthy article upon subject in Receivl de Médecine Vétérinaire. Lymphangitis holds an important position among the diseases which affect horses in the present war. All the veterinary surgeons have more or less to do with this disease, which provides, perhaps, the majority of the animals lodged in the infirmaries. The length of the treatment, and the numerous and repeated dressings that are necessary, often severely tax the skill and zeal of the veterinarians.

Various treatments have been published for the epizootic form, which enable us to deal with it successfully. For ulcerous lymphangitis no specific has yet been found. Local treatment has given some success; but it is too long, and requires months to obtain recovery; and recurrences are not rare. Incomplete recoveries may also occur, leaving defects which cause the animals to be discarded, and sometimes necessitate their de-

struction.

Ulcerous lymphangitis is due to a bacillus which morphologically resembles that of diphtheria, and was discovered by Nocard and Preisz. It is usually cultivated upon liquid media, but grows best upon serum and upon Martin's broth, where it forms an abundant pellicle. Under natural conditions the Preisz-Nocard bacillus is pathogenic for the horse, sheep, pig, ox, and goat. In the sheep, it is the causal agent of a pseudo-tuberculosis localised to the liver, kidneys, lungs, and thoracic glands.

According to the researches of Forgeot and of Cesari, the Preisz-Nocard infection in the horse may be demonstrated by means of toxin-diagnosis. This consists in injecting 2 c.c. of serum from the infected horse into a guinea-pig, into which a certainly mortal dose of Preisz-Nocard bacilli is injected twenty-four hours later. If the equine infection is due to the Preisz-Nocard bacillus the guinea-

pig resists; in the contrary case it dies.

Fuche has attempted the bacterio-therapy of ulcerous lymphangitis with emulsions of Preisz-Nocard bacilli, and has obtained results which seem encouraging. The vaccine, consisting of 1 centigramme of bacilli killed by alcohol-ether and emulsionised in 1 c.c. of physiologic solution, is injected subcutaneously in the neck. The dose is repeated two or three times, according to the gravity and duration of the case, with intervening intervals of eight days.

A slight engorgement remains at the point of inoculation for two or three days, and afterwards disappears. The thermic reaction is slight, amounting to about 1°C. The appetite and the other

functions are not disturbed.

Some days after the third injection the majority of the nodules are shrivelled, the suppuration dries up, and the lymphatic cords undergo resolution. The affected extremities regain their form, and such sequels as that of elephantiasis, left by the old treatment, do not occur. Moreover, Fuche has

never seen recurrences. In some of the graver cases, a fourth injection has had to be made to

obtain complete success.

Some details are given of eight cases, all of which were successful. The diagnosis of all these cases was confirmed by the microscope and by cultural experiments; and it seems that ulcerative lymphangitis can be efficaciously treated with bacteriotherapy. Of course, great care in diagnosis must be exercised, in order to treat only those cases of lymphangitis which are due to the Preisz-Nocard bacillus.—(La Clinica Veterinaria).

REPORT OF VETERINARY DIVISION, DEPT. OF AGRIGUL-TURE, UNION OF S. AFRICA, 1915-16. [Abridged.]

East Coast Fever is still the most important problem with which this Division has to deal, and no apology is necessary for beginning this report by outlining briefly the position of the various Provinces with respect to this disease and discussing the general situation in each.

Cape (exclusive of Transkeian Territories). In this part of the Province the position has distinctly improved. In 1914-15 four districts were infected, the total number of infected areas was 30. During 1915-16 two of the edistricts have been taken out of quarantine. In the other two districts the total number of infected areas remaining in quarantine has been reduced to six, and, as there has not been any serious mortality in these during the past twelve months, there would appear to be good reason to hope that the disease will soon be

banished from these districts also.

The removal of the King William's Town district from the list of infected districts relieves this I'rovince from a very serious menace, as native locations such as those amongst which the outbreaks occurred in this district are always difficult to handle, on account of the propensity so frequently displayed by the natives for the surreptitious removal of their animals when disease becomes prevalent. Now, however, we have every reason to think the disease has been stamped out, although a careful watch is still being kept over former infected areas lest some unsuspected centre may have been overlooked through the omission of owners to report the occurrence of deaths amongst their animals.

Were it not for the close proximity of disease in the Transkeian Territories, the position of the remainder of the Cape Province might be now regarded as reasonably satisfactory, but as long as the disease is prevalent in

the Transkei danger is ever present.

Transvaal. Here there are eight districts infected with East Coast Fever, but in most of these the infected

areas are more or less circumscribed.

In the Barberton district, during the year 1915-16, there have been 21 further outbreaks, all in close proximity to areas already infected, bringing the total number of infected farms in the district up to 60. Fortunately, however, the somewhat isolated position of the district renders the situation less serious than it otherwise would be, and, as dipping operations have been carried out so vigorously that no deaths have occurred in the last twelve months on twenty-four infected areas, it will, I think, be obvious that the position should soon show some improvement.

Next comes Pietersburg, with eleven outbreaks, seven

of which occurred within the year.

This revival of the disease has naturally had a depressing effect upon the development of the district, but, as the farming community have taken very kindly to dipping, and many native headmen have already pro-

vided themselves with tanks which they are using regularly, the addition of two to the total number of areas under quarantine last year cannot be regarded as dis-

couraging.

In the district of Piet Retief, which comes next, there has been a marked improvement since the presentation of my last report—then there were 21 areas in quarantine, now there are only seven. Two fresh outbreaks

have occurred within the year.

In Carolina there are 8 areas in quarantine, upon 7 of which the disease wss detected during the present year. All the infected areas are situsted in the low-veld portion of the district, which is of a rugged and mountainous character and which borders on Swaziland and the district of Barberton and is chiefly inhabited by natives.

district of Barberton and is chiefly inhabited by natives,
In the Zoutpansberg district there have been two
fresh outbreaks, making a total of three quarantined
areas in all. The disease at the moment is well in hand.
In Ermelo there has been one outbreak on a farm in

In Ermelo there has been one outbreak on a farm in the immediate vicinity of the infected area in Carolina.

Natal. Although the total number of areas now in quarantine in Natal—212—is less than the number gazetted at the end of 1914-15, when there were 273 infected areas on our resister, the position in Natal cannot be regarded as satisfactory, as not only have there been 91 fresh outbreaks as compared with 37 the previous year, but many of these outbreaks have occurred in clean areas far removed from any known centres of infection upon fenced tanked farms occupied by Europeans and, in most cases, the source of infection has not been traced. The disease is so widely distributed that 28 magisterial districts are infected, and only six, which form a comparatively small portion of the total area of

the Province, are shown as free from disease.

While reviewing the position in Natal last year I expressed the opinion that it was both favourable and hopeful, but I confess I am by no means so sanguine now. It is by no means easy to say why there should be such a falling off in a Province containing so many dipping enthusiasts as Natal. Probably it is due in part to the fact that the pressure brought to bear upon the farming community for the purpose of encouraging the erection and use of dipping tanks by giving facilities to those who had them, which were withheld from those who had not, has at last moved a number of those who are sceptical as to the benefits of dipping to put up tanks, less with the object of using them than for the purpose of obtaining permits, and that it is on account of the disregard of the conditions attached to the permits which they obtain that some of these mysterious outbreaks have occurred, while it may be that some who know better and who claim, as some have claimed, to be able to stamp out an outbreak of East Coast Fever by a few months of short interval dipping, prefer to refrain from reporting the existence of disease when it appears upon their holdings on account of the prolonged quarantine which the authorities impose for sound scientific reasons, and by their silence they expose all those who use the roads traversing such infected areas to risks of which users are unaware and to which they would not be exposed if outbreaks were honourably and promptly reported. The disloyalty of a few must jeopardise the safety of a loyal and law-abiding majority, and unless the community as a whole subscribes to these conditions, which scientific experiments have shown to be essential for the erradication of East Coast Fever, those who are honestly doing their best to support the authorities will have to suffer with their less scrupulous neighbours, while stockowners in the adjacent Provinces will continue to be chary about going to Natal for the well-bred stock which, under more favourable conditions, they would only be too willing to purchase.

In native areas in Natal, Senior V.O. Power reports

that satisfactory progress is being made in many locations, and in others, where the task of tackling the disease has been delayed on account of an inadequate supply of tanks, authority has recently been obtained for the provision of additional dipping facilities whereby the position will be considerably improved. Stamping out disease in native herds in areas where tropical conditions exist (which are favourable for the multiplication of ticks), where the natives are unable to look after their own dips and often not too willing to use them, is always a tedious undertaking and an immediate improvement cannot be looked for.

Transkei. Generally speaking the operations undertaken for the eradicaton of disease in native territory have not yet reached a stage 'at which we can reasonably expect to see good results. In those districts occupied mainly or exclusively by natives, the tank construction programme projected by the Transkeian General Council and by the Government is being carried out as funds are available, but many districts are still short of their full complement of tanks, and in most of these the disease is still eating its way slowly into the native herds. Whenever practicable cattle are being dipped, but as each district is now permitted to raise funds for the purchase of dipping materials in whatever way it considers best -- some doing it by an annual levy of so much per animal, some by a prescribed charge on the individual hut owner, and some by the imposition of a dipping fee collected at the tank at which the animals are dipped—the cost to the native varies considerably in different districts. Not only is this the case, but in some areas dipping is carried out with greater thoroughness than in others and with greater satisfaction to the owners. The present lack of uniformity in the manner of finding the money to buy dip does not appear likely to yield better results than the former system of centralising the control of these operations at Umtata, and it appears to me in the case of a community so indifferently educated as that of the Transkei a benevolent despotism would be more appropriate to present conditions than the adoption of a system of decentralisation, for which the majority of natives are hardly ready, although it may very well be that it is more politic to lead than to drive, and that the ultimate results of the former may be better.

Throughout the territories generally theae have been only 31 fresh outbreaks as compared with 58 last year, and it is satisfactory to observe that in some native districts. and more particularly in the case of districts bordering on the Cape Province, the disease is comparatively inactive. In many districts the mortality amongst adult cattle is no longer serious because most of those are immune, either through inoculation or through having contracted the disease naturally when young, but in all districts which the disease has thoroughly established itself there is a heavy mortality amongst young stock, which varies from 30 to 80 per cent.. which keeps up veld infection and perpetuates the disease.

In those districts in which European farmers have established themselves the position is better. In consequence of the improved condition of the Mount Currie district it has been found possible to relax the restrictions formerly imposed on ox transport and now the main roads of the district are open, the town of Kokstad is out of quarantine, and the confidence of the farming population has been restored to such an extent that they no longer hesitate to introduce pedigree cattle from Natal or even from oversea for the purpose of improving their lands.

The district of Matatiele has also shared the prosprity of Mount Currie, although its position is by no means satisfactory, as the disease has established itself on Kaka's Location and also on two adjoining farms. Fortunately these areas are off the main line of traffic The number of tanks in use at the 31st Marc between the railhead and the heart of the district, and year was 656, and 14 in course of construction.

it has been found possible to maintain ox transport in the major portion of the district, but should any further outbreaks occur there is considerable danger of the situation in this district becoming acute, as equine transport is scarce and difficult to obtain, while the district is very indifferently provided with tanks, and the suspension of ox transport which might become necessary would undoubtedly be a very serious handicap.

In Umzimkulu, the only other district in which there are any number of European farmers, at the beginning of the year most of the large locations were infected throughout and only inadequately tanked. The position has now improved, and with the provision of the necessary tanks in their locations and the inauguration of a vigorous dipping policy, I see no reason why satisfactory progress should not be made, as in a district in which Europeans and natives live side by side natives are generally benefited by the example set by the former and endeavour to follow their example.

DIPPING AND EAST COAST FEVER.

Generally throughout the Union, dipping operations during the past year have been seriously interfered with on account of a falling off in supply of dipping material and a considerable advance in price. So acute did the shortage become at one time that in many places arsenite of soda was unprocurable, and this scarcity even threatened to bring the dipping of cattle in affected areas to a standstill. Urgent representations were made to the Government by various bodies of farmers, and as a result the position has improved somewhat, but the difficulties in connection with conveyance oversea make the position precarious, and it might at any time be necessary to restrict the sale of dipping material to actively infected areas.

In the Cape Province interest in the erection of dipping tanks has waned to a lamentable degree. Our returns show that 1409 cattle dipping tanks have now been erected, the larger proportion in districts invaded by or threatened with invasion by disease and two are under construction. After all that has been said or written on the subject of cattle dipping, and with the example of other Provinces before them, it is a matter of regret that the Cape Province, which is in daily danger of invasion by East Coast Fever, should still be so indifferently provided with facilities to fight this and other tick borne diseases.

In the Transvaal, where stockowners have learned from bitter experience what an invasion by East Coast Fever actually means if proper provision has not been made to combat it, things are no better. The number of tanks now erected in this Province is 717; of these, 146 were built during the current year, and 21 are in course of construction, but if we leave the district in which the disease actually exists or has existed out of consideration the number of tanks is absurdly disproportionate to the number of farms, most of which carry stock.

In Natal there are 3557 tanks in use and 34 in construction. The policy of the Department in controlling the movements of stock has, undoubtedly had some effect in swelling the number of tanks which have been erected in Natal, but while there is room for more tanks, there is little reason to doubt that by far the greater number have been put up by farmers who appreciate the benefits of cattle dipping, and in time to come they will reap the benefits of their enterprise; for farming operations will be conducted with greater economy and less loss.

In the Transkei the erection of dipping tanks proceeds steadily, but more are required before some of the districts will be in a position to tackle the problem of getting rid of East Coast Fever with any hope of success. The number of tanks in use at the 31st March of this

In the Orange Free State, at the end of last year, 70 from 3.26 last year to over 10 per cent. during the curners had been erected—now increased to 128, with 14 rent year. This I am rather inclined to attribute to the tanks had been erected—now increased to 128, with 14 in construction. This would appear to indicate that the farmers are at last beginning to realise that a dipping tank may be a profitable investment.

TUBERCULOSIS.

Next, perhaps, to East Coast Fever in importance from an economic point of view comes tuberculosis. During the year legislation was introduced, empowering the Minister to arrange for the application of the tuberculin test oversea in the case of animals intended for import, where suitable accommodation was provided and where the Government concerned was prepared to carry out the test in conformity with our requirements. More extended powers have also been given to the Minister for dealing with reacting animals imported from oversea, but the schedule of compensation for reacting animals slaughtered by order of the Minister remains unaltered, and, as a consequence, there is still a lack of co-operation between stock owners and the authorities which defeats any efforts made by the Department to deal in a satisfactory manner with outbreaks of the disease.

Senior V.O. Dixon reports that the percentage of cattle reacting to the tuberculin test in the Cape prohibited area has materially diminished. This he attributes not to any abotement of the disease but merely to the fact that those buying cattle for removal from the closed area have been more circumspect in their purchases. During the year 4032 cattle were tested from the four closed districts, of which 2.58 proved to be

reactors.

The number of reactors has fallen off amongst locally bred cattle. Through Durban 109 cattle were imported. of which four reacted to the tuberculin test, bringing the percentage of reactors imported into the Union

down to 7.2.

In the Transvaal, during 1915-16, thirteen outbreaks of tuberculosis have come to the notice of the Department. In these outbreaks 425 animals were tested, 22 were destroyed after test and found to be tuberculous; six animals slaughtered before test were found to be infected.

Statistics obtained from Johannesburg, Germiston, and Pretoria abattoirs show that during the past year 184 cattle and 56 swine killed at these abattoirs were infected with tubercle; the previous year the numbers were considerably greater—291 cattle and 129 swine—but the reduction in the number of infected animals discovered can, I think, only be due to the disposal of infected animals through some other channel than that of the Municipal abattoir.

In Natal six fresh outbreaks were dealt with during the year, involving the testing of 1006 head of cattle, of which 114 were condemnated before or after test. The Senior V.O. states that there appears to be a tendency on the part of breeders of good stock to come forward and have their cattle tested, but he expresses a doubt whether this movement is likely to grow to any extent.

In the Transkei two centres of tuberculosis were discovered in 1915-16. In the first, 125 in-contacts were tested and only one reactor was discovered, but the second, which has only just been investigated, revealed a very serious state of affairs in a well-bred herd of

shorthorns.

In the Orange Free State the Division was called upon to deal with two outbreaks—in one a single animal only was concerned. The other outbreak occurred amongst a herd of pigs; this was dealt with by the slaughter of the in-contacts and disinfection of the premises.

There has been a very marked increase in the number of reactors amongst imported cattle tested at Cape quarantine stations, the percentage having gone up | stroyed. The other six, which involved the destruction

purchase of a cheap class of pedigree cattle for speculative purposes, some of which may have been fortified prior to purchase and, in this way, escaped detection when tested before shipment.

Through Durban 109 cattle were imported, of which four reacted to the Tuberculin test, bringing up the percentage of reactors imported into the Union down

Cattle imported from Great Britain, tested during the year ended 31st March, 1916, 234: reacted 17; per cent. 7.2.

Out of 341 cattle imported only 234 were tested during the year under review, the balance of 107 being accounted for by cattle proceeding direct to Rhodesia, and cattle landed in March being tested in April.

Anthras. In spite of the amount of attention and comment bestowed upon Gall Lamziekte at farmers' meetings and in the columns of the public press, it is, in my opinion, very doubtful whether the aggregate annual loss from anthrax is not very much greater than the mortality from gall lamziekte, although the former is a preventable disease which can be controlled and

stamped out by inoculation.

In the Cape Province the Senior V.O. reports that the disease is extending and, as no determined effort is made for its suppression, the losses will probably be greater than they have been in the past. European stockowners, also Natives, are now beginning to use vaccine for the protection of their stock in infected areas, but unfortunately many defer inoculating their animals in such areas till after an outbreak has occurred and the losses are frequently considerable. Occasional complaints reach the Division about the vaccine supplied by the Department, but these complaints, Senior V.O. Dixon thinks, are often due to lack of care in using the preparation: the dose is very small, and it is more than probable that when a large number of animals have to be inoculated the inoculator, in his haste, is not sufficiently careful in introducing the vaccine under the skin. The Senior V.O. suggests that this might be obviated by increasing the volume of the doses so that the exact amount to be administered could be more easily determined.

Three hundred and forty-six outbreaks have been reported in the Cape Province during the year, probably only a small proportion of the total number which have

actually occurred.

In the Transvaal anthrax is still very prevalent, particularly along the Reef. 688 outbreaks have been reported and dealt with as against 529 last year: 1100 animals have died from the disease and 27,500 head have been inoculated.

In Natal the number of outbreaks continues to be relatively small -34 in all have been reported; 211 head have died and 5379 in-contacts have been dealt with. The Senior V.O. states that stockowners readily resort to preventive inoculation whenever the disease makes

its appearance.

In the Transkei the Senior V.O. reports the losses from this disease have not been heavy—52 outbreaks have occurred, the most serious being one at Ramhlokoana's Location, Matatiele, where 85 deaths occurred. In every outbreak in-contacts were promptly inoculated.

In the Orange Free State anthrax is becoming increasingly prevalent—88 outbreaks have been recorded; over 500 animals have died and 12,763 have been inocu lated.

Glanders. Cape Province. There have been 22 outbreaks of glanders in this Province during the past twelve months, 16 of which occurred in the Cape and the surrounding Divisions, where 52 animals were deof 15 equines, occurred in widely separated parts of the Province. In dealing with these outbreaks 212 in-

contacts were submitted to the mallein test.

In the Transvaal Province there has been a considerable increase in the number of outbreaks of glanders: 63 were reported and, in suppressing these, 46 animals were condemned before test and 1537 animals were tested, of which 95 were destroyed as reactors.

In Natal, where there were 9 outbreaks involving 734 animals, of which 18 were destroyed as infected before or after test, the Senior V.O. makes the following remark, with which I entirely concur—"In view of the conditions obtaining and the large number of equines distributed about the country from active service, I consider the position with regard to this disease satisfactory and reflecting credit on the responsible officers of the Defence Department.'

In the Transkei only five outbreaks were reported during the year: seven animals were found to be affected and were duly destroyed.

In the Orange Free State six outbreaks are recorded. In dealing with these 801 equines were tested, 99 of which reacted and were destroyed, in addition to five clinical cases similarly dealt with prior to test.

Lungsickness. Cape Province. There have been no fresh outbreaks of lungsickness in the province this The outbreak in Kingwilliamstown, to which I referred in last year's report, died out after the slaughter of an infected animal discovered in Apil, 1915.

In the Transvaal, one outbreak: two animals were destroyed and found to be infected, but no further cases

occurred amongst the in-contacts.

Transkei. Two outbreaks of lungsickness were dealt with, neither of which was of much importance, only three animals being infected. The Senior V.O. is of opinion that this disease is well in hand, and that with reasonable vigilance the Territory will soon be free from it.

Equine Scabies (Mange). Cape Province. The Senior V.O. reports that this disease has been very prevalent in the vicinity of Port Elizabeth, mainly amongst donkeys belonging to kaffirs and coloured transport riders. Outside this area the disease has given little trouble: 76 outbreaks were brought to the notice of the Authorities; 37 affected animals died or were destroyed as incurable and 200 were put under treatment.

Transvaal.—There were five outbreaks of mange in this Province during the year, none of which were of any importance. Natal.—Eleven outbreaks occurred; eight affected animals died or were destroyed, and 53 were treated. Transkei.—Fourteen outbreaks, all of small extent. Orange Free State.—Four outbreaks were dealt

with.

Epizootic Lymphangitis. Cape Province.—Five equines were destroyed on account of their being visibly infected with epizootic lymphangitis. In the Transvaal this disease occurred in one animal only. In Natal there were five outbreaks. The position so far as this disease is concerned has greatly improved of late years.

Contagious Abortion. This disease is undoubtedly somewhat prevalent, but it is difficult to detect in the absence of information which can be supplied only by the stockowner himself, and as no satisfactory method of treatment is available, and the quarantine policy does not commend itself to those concerned, it cannot be said that we are well informed as to its distribution. In cases which have been brought to the notice of the Department, this Division with the assistance of the Research Division has endeavoured to assist owners to free their herds from infection by picking out reacting animals, but the results have not been an unqualified success, probably because infected animals do not give an immediate reaction to the agglutination test when

they become infected, and because animals which have ceased to react may still be capable of infecting others.

The number of outbreaks given in the appended outbreak returns is 31, distributed in: Transvaal 8, Natal 10, Transkei 8, Orange Free State 5.

Trypanosomiasis. The scare respecting this disease appears to have subsided. The results of the investigations of the officers of the Research Department were duly communicated to the Provincial Administration, and are being acted upon. No reports have reached this Division which would appear to indicate that the disease is spreading to any extent outside the fly area.

Non-Proclaimed Diseases.

The Senior Veterinary Officer, Cape Town, has furnished the following notes on non-proclaimed diseases coming under his notice during the past year:-

Blue Tongue amongst Sheep. Following the summer rains, outbreaks of this disease were reported from Hopetown, Phillipstown, Britstown, and Prieska districts, but owing to the prolonged drought over the greater part of this Province the disease was not much in evidence, except in the Western Province, where in parts it has been very prevalent, more especially on farms situated along the valley of the Berg River. Serious outbreaks of blue tongue in the lower districts of the Western Province are very rare, which I attribute to the scanty fall of rain in this area during the summer months.

Ephemeral Fever (Three days' Sickness). From reports received it would appear that this disease has been prevalent throughout this province. In some districts the disease was particularly severe, as many as 40 to 50 animals in a herd being attacked at one time. Very few cases proved fatal, if the affected animals were left alone and not drenched with medicine.

Lamziekte appears still to be confined to the sour grass veld area, and cases amongst milch cows and heifers-in-calf crop up during a prolonged drought. No reports have been received that this disease has extended and established itself in the Karroo or sweet veld districts

Geel-Dikkop. This disease, which attacks both sheep and goats and is mainly confined to the Karroo districts, was prevalent this summer in the Northern and North-Western Karroo districts, causing considerable mortality. It appears about the same time as blue tongue, although it is observed that, unlike blue tongue, when the rains are copious and persistent, geel dikkop is not so prevalent. Repeated rain showers followed by hot days are the weather conditions most favourable for its develop-

All attempts to produce the disease by inoculation have failed, also feeding experiments with suspected plants. As the true nature and cause of Geel-Dikkop are unknown, it is hoped that the Director of Veterinary Research will, by investigation, elucidate the cause.

Medical treatment is found successful when the affected animals are treated early, but it would be more satisfactory if we were in the position to advise stockowners of the true cause of the disease and the rational preventive treatment to adopt.

Geel-Dikkop has also been rather prevalent in the Orange Free State. There has been no opportunity of making any investigation respecting the so-called White

In the Transker the past horse sickness season has been remarkably mild. The same applies to blue tongue. A peculiar form of bone disease in donkeys occurring in East Griqualand is now being investigated by the Research Division.

STAFF.

The difficulties which this Division had to contend with last year, owing to reductions of staff through the transfer of Veterinary Officers to the Defence Department for duty in connection with military operations in German East Africa and elsewhere, have been aggravated by the further demands made by that Department for additional professional assistance. Practically half of our staff of Veterinary Officers and a considerable number of Stock Inspectors are now on active service, and as the staff has been further reduced by deaths and retirements there is no doubt that the legitimate work of the Division has suffered very materially. Complaints regarding delays in investigating and dealing with suspected outbreaks of disease have been numerous, but these have been unavoidable, and I have no doubt that when our officers return to their ordinary work they will find many smouldering centres of infection to deal with whose existence is at present unsuspected.

During the year I regret to say that the Department has lost the services of two valuable officers—Senior Veterinary Officer Christy (retired owing to a breakdown in health), with whom I have been intimately associated ever since I entered the Department, and to whose ability and energy I can unhesitatingly testify; and Government Veterinary Officer Pakeman, a zealous and hard-working officer who practically died in harness.

In closing this report it is my pleasant duty to direct your attention to the patriotic spirit displayed by the officers of this division. Practically all the professional staff volunteered for active service with the Defence Department, and many of the non-professional officers as well, and the chief difficulty with which I have had to contend with has not been that of finding men to go on active service when asked for them, but of holding men back to carry on the ordinary work of the Depart-Doubtless there has been a certain amount of heart-burning amongst the men who were not allowed to go, but if they have felt disappointed they have not allowed their feelings to interfere in any way with the efficency of the work which they have heen called upon to do, although, owing to our shortage of staff, this has been more than usually arduous and exacting. To those who went and those who have had to remain behind in the clerical, professional and non-professional branches of this Division I must express my indebtedness for the way in which they have performed their duties during the year just past.

C. E. GRAY, Principal Veterinary Officer.

PROFESSIONAL STAFF OF VETERINARY DIVISION. 1915-16.

TRANSVAAL PROVINCE. J. Spreull, Senior V.O., Pretoria; P. Conacher, Jahannesburg; J. Chalmers, Piet Retief; J. Edgar, Pietersburg; R. S. Garraway, Pretoria; G. May, Carolina; G. F. Marais, Volksrust; W. Jones, Mafeking; A. Goulé, Rustenburg. Seconded to Defence Dept.: J. G. Bush, F. J. Dunning, G. Lee, G. McCall, H. M. Webb, G. C. Webster, M. Cunningham. CAPE PROVINCE. R. W. Dixon. Senior V.O., Cape Town; W. A. Simson, Queenstown; G. Fern, Cape Town; A. C. Kirkpatrick. East London: A. Matthew Town; W. A. Simson, Queenstown; G. Fern, Cape Town; A. C. Kirkpatrick, East London; A. Matthew, Port Elizabeth; W. P. Hamlyn, Komgha; G. T. Hender-son, Elliot; B. van der Vyver, Cradock; H. H. Curson, Cape Town; W. G. Pakeman, Aliwal North. Seconded to Defence Dept.: J. H. L. Lyon, A. Goodall. NATAL PROVINCE. W. M. Power, Senior V.O., Maritz-

burg; C. H. Wadlow, Maritzburg; F. M. Hill, Ladysmith; J. L. Webb, Stuartstown; F. Hutchinson, Dundee; S. H. Ewing, Eshowe; A. F. Harber, Mooi River; T. H. Dale, Durban; C. Tyler, Port Shepstone. Seconded to Defence Dept.: S. I. Johnston.

ORANGE FREE STATE. A. Grist, Senior V.O., Bloem-ORANGE FREE STATE. A. Grist, Senior V.O., Bloemfontein; J. R. R. Hamilton, Bloemfontein. Seconded to Defence Dept.: E. T. Clemow, F. M. Skues, J. F. Joyce. TRANSKEI. G. W. Freer, Senior V.O., Umtata; G. H. Melck, Umtata; R. Paine, Kokstad. On active sercice in Europe: J. J. Keppel. Seconded for Defence Dept.: W. A. Dykins, A. E. Howie.

"Three Famous Dairies."

The inaugural meeting of the new session of the Glasgow and West of Scotland Agricultural Discussion Society was held on Wednesday evening, 14th inst. Sir Hugh Shaw Stewart Bart., C.B., honorary president, occupied the chair, and was accompanied on the platform by Mr. Alex. M. Trotter, M.R.C.V.S., the lecturer; Mr. James Gardner, South Hillington, Cardonald; and Mr. James Whiteford, Rhindmuir, Easterhouse.

Mr. Trotter had a very cordial reception. He said: "A prophet is not without honour save in his own country." That saying is as true to-day as it was when first it was uttered. How many of them had heard of William Harley? The majority of dairymen in the West of Scotland would, without hesitation, give the honour to Mr. Busck, of the Copenhagen Milk Supply Company, of having been the first to establish a model dairy. By doing so they would unwittingly slur the memory of one of the most notable Scotsmen of the nineteenth century. William Harley, who was born in Glendovan, Perthshire, and came to Glasgow in 1789, was successful in various business ventures in the city before he entered upon the establishment of a dairy. During 1780 the price of milk was 2d. per Scotch pint, but in twenty-eight years it had increased four-fold. Each dairyman was a law unto himself. It would appear, too, that the majority of the cows supplying the citizens of Glasgow with milk during the first decade of the nineteenth century were housed in the city under deplorable conditions.

Harley might be said to have taken as his business otto, "cleanliness and quality," and as these were motto, "cleanliness and quality," and as these were entirely foreign to the ideals of his competitors, it was not surprising that his efforts were immediately crowned by success. The other dairymen, in order to retain their customers, were compelled to adopt better methods. The good which Harley accomplished could not be estimated, because not only did he lay the foundation of modern milk production and distribution, but by example stimulated his competitors to take an interest in their work so as to place an article on the market worthy of the name of milk. The phenomenal success of Harley was due to his shrewdness and business aptitude. He not only placed the genuine article on the market, but was able to do so at a lower price. At the very beginning he fixed the price at 6d. per Scotch pint, which he considered a fair remuneration, although the current charge among the small dealers was at that time not less than 8d. It could not be too strongly emphasised that Harley owed his success to his system, and that his system was the foundation of modern dairying.

The site chosen for the Willowbank dairy was at the head of Nile Street. The first byre to be erected provided accommodation for twenty-four cows, but soon the demand for milk became so great that Harley decided to extend his premises. What was called the cided to extend his premises. grand byre was 94 feet long by 63 feet wide, and it had stalls for one hundred cows. The cows were arranged in four rows—nose to nose, with a passage between each row. The stalls varied in length to suit the different sizes of the animals. The floors were formed of hard freestone, the "grips" were eighteen inches

wide, and the walls were rendered smooth with plaster, and were pierced by eleven doors. The roof was in three spans, supported by beams. Ventilation was in three spans, supported by beams. maintained by the windows, doors, and open slated roof, the temperature aimed at being 60 deg. to 61 deg. F. The manure was, after being collected, discharged through openings in the floor into a cart. All dairy utensils were, after use, washed, scalded, and boiled.

Once a week the management allocated to each milker 12 to 15 cows, and it was compulsory for each milker daily to thoroughly groom "from the forehead to the tail and heels" the cows in her charge, and to scrub the partitions, hecks, etc., of their stalls. A large tin vessel to hold 40 quarts, a milking pail, a stool, and a towel were given to each milker, who was held responsible for were given to each milker, who was held responsible for their safe custody and good condition. It was imperative for every milker, before commencing to milk, to wash her face and hands, to fix her hair, and to don a clean neat dress. Harley also insisted that the udder of every cow be thoroughly rubbed with a clean towel before any milk was drawn, and, further, that each milker wash her hands after she had finished milking a cow. The milk from each cow was poured by the milker cow. The milk from each cow was poured by the milker into the large tin vessel, which, during the time of milking, was placed in the byre convenient to her, but in a situation where its contents would not be liable to contamination. After it was filled the large tin vessel was removed to the dairy, and the quantity it contained was recorded against the milker for future reference.

In further describing how the operations in the byre were carried through, Mr. Trotter remarked that it was of interest to note that the value of the milk record was recognised, and it might justly be claimed for Harley that he was a pioneer in this all-important question. He could not state whether or not the objects of Harley as revealed in the records of the Willowbank dairy were known to the Danes, but it could be affirmed without fear of contradiction that as a nation they had put into practice the principles of the old master. The daily yield of each cow in the Willowbank dairy was ascertained once a week. The amount was entered in a ledger, and as soon as the yield ceased to be remunerative the cow was sold to the butcher. The average yield was about 12 pints per diem. The milk of each was also systematically examined to determine its quality. The distribution was effected either by foot messenger or many things and sold his milk below whet he timestally examined to determine its quality. distribution was effected either by foot messenger or from a van. Harley had no place for the sloven or the slut. Every distributer, before leaving, was compelled to wash the face and hands, to tidy the hair, and to put on a clean garment. The fame of Harley's dairy spread through the country—yea, through the world—and people from all parts visited the Willowbank premises. The number of visitors became so great that eventually Harley erected a balcony in the grand byre, and charged an admission fee. These in the aggregate amounted to £200 per annum.
Mr. Trotter next dealt with the Copenhagen Milk

Supply Company, which was inaugurated in 1878, largely through the energy of Mr. G. Busck. Having spoken of its origin, and the fact that it was stipulated that the dividend should not exceed 5 per cent., the surplus being devoted to placing the company on a sound financial foundation, and to reducing the price of milk sold to hospitals and those in straightened circumstances, the lecturer went on to refer to the conditions under which the business was conducted. There was no doubt that the Copenhagen Milk Supply Company had effected a revolution in the milk trade in Denmark, and had also promoted the health of the citizens of Copenhagen by

Trifolium Mackforsung was formed by a number of district.

Danish farmers who desired to obtain the greatest possible return for the milk of their herds. The company owned four establishments situated in different parts of the country, and handled the milk of 12,000 cows. Butter and cheese were manufactured in three of these, whilst milk was sold from the fourth to the citizens of Copenhagen. After an exhaustive description of the methods adopted in the handling and distribution of the supplies of the company, Mr. Trotter went on to explain that farmers were under contract to cool all milk immediately it was drawn from the cows, and to consign it as whole milk. Stringent regulations were enforced to ensure the purity of all milk supplied. The farmer was bound to submit every six months a report from his doctor regarding the health of himself, his family, his employees, and their families. When infectious disease did occur no milk was permitted to be sent, but the company paid full market value for it as if consigned. The farmer was also forbidden to permit the handling of milk by any person suffering from tuberculosis, syphilis, suppurating sores, or any skin disease on the face, hands, or arms, or affected with diarrhœa. Veterinary surgeons not only examined every cow, but supervised the quality of the food and the quantity given, the cleaning of the animals, byres, and utensils, the cleanliness of the attendants, etc. For the purposes of control samples were, at frepuent intervals, taken from the transit cans for both chemical and bacteriological examination. The admirable arrange-ments of the dairy, the methods of distribution, and the supervision were worthy of the serious consideration of all—and who was not interested in promoting and maintaining the purity of our milk supply? (Applause).

THE DISCUSSION.

Mr. James Whiteford, Rhindmuir, Easterhouse, had taken the chair owing to Sir Hugh having to leave the meeting early. Personally, he thought Mr. Harley had too many servants to have thorough cleanliness. If many farmers had better byres it would help to keep the

milk supply clean.

Mr. John Findlay, Baillieston, was very pleased to hear that there was a famous dairyman in Glasgow about 100 years ago.

Mr. Harley had, however, far too many so many things, and sold his milk below what his neigh-bours were selling at. Did he actually fail in the milk

Mr. Trotter said Mr. Harley did fail, but it was through investing his money and not by under-selling

his neighbours.

Continuing, Mr. Findlay said it was quite easy to keep a hobby going when there was another successful business behind it. As to the matter of clean milk, he remembered Bailie Anderson giving a lecture in that room, when it was stated that if the farmers did not mend their ways Glasgow had plenty of means of getting pure milk otherwise. Farmers were actually blamed for the heavy death rate among infants. The Corporation tried their hand at providing clean milk for children in Glasgow a year or two ago, but the result was that the death rate was practically doubled, and the experiment gost between \$15,000 and \$18,000. cost between £15,000 and £18,000. Of course, farmers were and always had been accustomed to others interfering with their business. He would have preferred Mr. Trotter to give them something about the dairies in this country. Far off fowls had fair feathers, and he was sure if they had a chance to investigate all things at the Copenhagen dairy, they would not be applicable providing a reasonably pure and wholesome milk supply.

Then there was the Trifolium Dairy Company. The would not cost one-third of what it did in the Glasgow

Mr. James Stirling, Glasgow Dairy Co., Ltd., remarked that Mr. Harley did everything in a most scientific way. His farms were of no mean order. He was still looked up to in the dairy trade, and even at the present day they were not abreast of Harley 100 years ago. Circumstances certainly were changed.

The servant question was not so acute then as now.

It was difficult to get the men and women to wash their faces, and if an extra washing was insisted on, it was like tearing their hearts out. It was very wonderful that Harley's ideals were just the ideals they were seeking to attain at present. One thing they in Glasgow were ahead of Copenhagen in was the filtration of milk. They did not use sand, and did not depend on cloths or wires. They had centrifugal filtration, which system was the finest in the He had never seen the Copenhagen dairy, but he had been in Stockholm, and there rules and regulations were very much in evidence. He was of opinion, however, that even with these they were no further forward than in Glasgow, for the rules and regulations were not adhered to.
Mr. Wm. Stewart, Milton, Duntocher, was very pleased

with the description given of Harley's dairy. membered his grandmother well, and her system of controlling milk was quite as cleanly as was the present day system. He thought Mr. Trotter should have given some ideas whereby farmers could have improved their system of supplying the public with milk.

Mr. John Renfrew, v.s., Bath Street, Glasgow, said it was erroneous to believe that the filtering, pasteurisation, or sterilisation of milk could be done without. It would be really surprising to many to see how much filth was left after milk had been filtered. Some of the methods to ensure cleanliness, such as the washing of hands, as described by Mr. Trotter, were quite sound if properly carried out, he had, however, seen one bucket of water wash many pairs of hands, while one towel dried the lot. Until farmers had some special inducement to supply better milk, he felt sure they would not get it.

Mr. Thomas Scott, South Woodend, Castlecary, was sure if the cows were milked in a cleanly fashion and the milk carried away almost immediately, there was little danger of dirt getting into it, and after that it did not lie with the producer at all. In fact, he was certain that the people who bought milk were more to blame for it being dirty than the producers were. Some of the dishes into which milk was put were in a scandalous

condition.

Mr. Semple, dairyman, Glasgow, said the dairyman had a long way to travel before they attempted what was being done in Copenhagen. As a dairyman in Glasgow he came into contact with certain things that could be improved without any extra expense. More particularly was this the case in connection with milk sent by rail. The ideals set up in the lecture seemed very good and very high, still they were not so high but that everyone could aim at bringing about a general

The Chairman (Mr. Whiteford) thought it was the duty of all to try and produce as clean milk as possible. He proposed a very hearty vote of thanks to Mr. Trotter for his lecture.

Mr. Trotter, in acknowledging, said his object in bringing up that subject, more especially Harley, was that they seemed to have forgotten one of the grandest old men in the trade. He was long before any of the Danes in taking up modern dairying. There was not a dairyman in the West of Scotland who could hold up his head and say he could beat old Harley. He thought they could all introduce Harley's ideals into their businesses, and by so doing they would find things were much easier wrought. Mr. Findlay seemed to blame him (Mr. Trotter) for the inauguration of the Corpora-

tion milk depot, but he had nothing to do with it, and never was inside it. One remark given by Harley in his book applied to them all at the present day. Harley) had occasion to remonstrate with some of his employees as to their work, and the reply he got was: —
"I canna be fashed wi' your new-fangled ways."—The Scottish Farmer.

Clean Milk.

In a note in The Scottish Farmer on the publication of a book on the production of clean milk, by Wilfred Buckley (Country Life Office, 20 Tavistock Street, W.C., 15 6), the following passages occur:-

Mr. Wilfred Buckley, besides being the farmer of Moundsmere, an estate of 1007 acres, with 840 acres arable and pasture, is Director of Milk Supplies, Ministry of Food, and Chairman of the Council of the National Clean Milk Society, the objects of which are to raise the hygienic standard of milk and of milk products, and to educate the public as to the importance of a clean and

wholesome milk supply.
"Whilst the details of Mr. Buckley's system of farm book-keeping and stockraising are intensely interesting and practical, his particulars regarding the production of clean milk are elaborate and far-reaching. agreed that as a start the herd for milk production must be free from tuberculosis. To get this every cow in the Moundsmere herd is tested before admission, tested three months after admission, and thereafter at least once a year. Since the herd was founded in 1907 the number of tests made has been 688, and only two animals reacted at the second test, and none subsequently.

"Of animals bought in the open market, 10 per cent. of heifers with their first calf were found to be tuberculous, but the proportion amongst older animals was much higher, for which reason the purchase of animals that had had more than two calves was given up. Since the herd reached the full complement of 100 Shorthorn milking cows, no purchases have been made-it has been replenished with home-grown young stock. tain the herd, about 75 young stock of all ages are necessary in order that about 20 may calve for the first time each year after the least satisfactory have been discarded.

"A description of the byres is given, showing that plenty of light and ventilation are provided. There are also two milking byres, weighing and washing rooms, milk room, hospital, etc. Full details are are also given of the method of milking, one feature being that the first two squirts from the teats are allowed to fall on the concrete floor. The milking is done with dry hands. The milk is carefully handled from start to finish, so that the produce of this dairy may be put on the market as clean as is possible. Mr. Buckley says, "Anyone who maintains a dairy farm assumes a grave responsi bility, for the milk that is sent away may be the cause of health and happiness or of sorrow and disease, with consequent gain or loss to the nation. Any farmer can produce clean milk if he has the necessary determination, and if an adequate water supply is available."

That Mr. Buckley is producing clean milk is proved by the bacteriological examinations made at the Dairy Research Institute, University College, Reading The bacterial content of the average sample of London milk is about 3,500,000 bacteria per 1 c.c. The number of bacteria per 1 c.c. in Moundsmere milk, drawn, bottled, and sent away in the usual course from the 28th Nov., 1916, till the 10th May of this year, did not, it is stated,

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

			Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.		
Period.				Out- breaks (a)		Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
Gт. BRITAIN. We	ek en	ded Nov	. 17	3	3					52	77	. 8	24	4
Corresponding week in	{	1916 1915 1914		8 10 10	8 11 12	7	68	2	2	25 13	37 36	12 5 5	63 66 95	30 191 660
Total for 46 weeks,	, 1917			378	430			23	48	2146	4034	439	1950	832
Corresponding period in	{	1916 1915 1914		471 504 641	556 570 702	1 38 24	24 463 124	44 42 90	112 76 271	1371 728 1530	4152 1567 2642	222 174 170	3929 3584 3865	8977 15366 36708

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Nov. 20, 1917.

† Counties affected, animals attacked:

Excluding outbreaks in army horses.

Analysis of Chestnuts and Acorns.

At a recent meeting of the Society of Public Analysts J. L. Barker and H. F. E. Hutlon reported the resuit of the analysis of peeled chestnuts and peeled acorns. The percentage of starch in three specimens of chestnuts averaged 44.2, but in a fourth specimen was as low as 21.9. The amount of cane sugar varied from 8.1 to 17.5, possibly in relation to the degree of ripeness. Diastase present behaved like the diastase of an ungerminated cereal. The percentage of starch in two specimens of peeled acorns was 57.1 and 55.7 respectively. There was very little cane sugar in either specimen, but some reducing sugars. No diastase could be found in the acorn either before or after germination.—B.M.J.

CONJOINT BOARD IN ENGLAND-PRELIMINARY.

The revised regulations of the Royal Colleges of Physicians and Surgeons in England relating to the Preliminary Examination required for the diplomas of the Royal Colleges come in force at once. Latin is now an optional subject, and a larger range of optional subjects has been adopted. A candidate must pass in (a) English; (b) mathematics; (c) one of the following languages: Latin, French, Russian, German, Italian. or Spanish; (d) a second language selected from the foregoing list or one of the following subjects: higher mathematics, experimental mechanics, chemistry, physical geography, physics, botany, biology, geology.

German "Scientific" Warfare.

Some time ago Dr. Georg Friedrich Nicolai, formerly physician to the Imperial Family of Germany and Professor of Physiology in the University of Berlin, was condemned to reduction in military rank, detention in a fortress, and confiscation of his property by way of punishment for the publication of a book on the biology of war. In it he described the degradation of the German military character caused by the war. In illustration he stated that a military officer of the highest rank had asked him whether it would be possible to throw behind the enemy's lines bombs containing cholera germs or plague bacilli. On the professor's reply that such a procedure would be inhuman, the officer contemptuously replied: "In this war humanity has no place and it is lawful for Germany to do everything that may be to her advantage." Nicolai adds that millions of Germans are of the same way of thinking. A doctor on the General Staff asked him whether it would not be possible to inoculate Russians with bacteria, adding, "With such cattle, everything is lawful."

ARMY VETERINARY SERVICE

War Office, Nov. 19.

The King has been pleased to confer the following rewards for gallantry and distinguished service in the field:—

THE MILITARY CROSS.

Temp. Capt. J. E. Hanna, A.v.c.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Nov. 17.

REGULAR FORCES. ARMY VETERINARY CORPS.

To be Capts. (Nov. 18):—Capts. from Spec. Res.:—
J. A. Ward, R. C. G. Hancock, J. J. Hegarty; Capt.
R. Simpson, from T.F. Capt. from Spec. Res.:—C. P.
Fisher, J. O'Carroll; Temp. Capt. W. B. Howe. Capts.
from Spec. Res.:—G. E. Oxspring, R. H. Stalker.
Temp. Capts.: G. K. Shaw, W. H. Heaney, H. J.
Hughes, W. Hay; Capt. G. H. Bennet, from Spec.
Res. Temp. Capt. E. S. W. Peatt.

Temp. Lt. to be temp. Capt.:—A. Richardson (Nov. 6).

Nov. 19.

Maj. G. P. Knott to be actg. Lieut.-Col. whilst an Asst. Dir. of Vety. Servs. (June 13).

Temp. Lieut. A. C. Perkins relinquishes his commn. on acct. of ill-health contracted on active serv. (Nov. 20).

Maj. E. M. Perry, F.R.C.V.S., T.F., to be actg. Lieut.-Col. whilst empd as Asst. Dir. of Vety. Servs. (June 16).

Capt. J. McArthur, T.F., to be actg. Maj. whilst comdg. a Vety. Hospl. (July 1).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Nov. 16.
Capt. (temp. Maj.) P. W. Dayer-Smith to be Maj. (Nov. 4)

The following casualties are reported:-

Correction.—Capt. F. A. Bishop, a.s.c., (repd wounded) should read Capt. F. A. Bishop, a.v.c.

DIED-Pte. A. E. Williams, 21081 (Balderton).

Sister KATHERINE BARLING, daughter of Mr. F. W. Barling, M.R.C.V.S., Bartestree Court, Hereford, on Wednesday, Oct. 31st, had the honour of being received by the King at Buckingham Palace, and receiving from his Majesty the Royal Red Cross (second class) in acknowledgement of her work for wounded soldiers in the Territorial Force Nursing Service. Sister Barling is one of the "Charge" Sisters at the 1st London General Hospital, Camberwell.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the follow ing subscriptions for 1917 :-

F. Aulton, Tutbury, Staffs.	£1	1	0
D. S. Jack, King's Lynn (1918)	2	2	0
W. E. Livock, Newmarket, Suffolk	1	1	0
T. le B. Revington, Capt. s. A. v. c. (1912, 1917)	2	2	0
F. J. Thornton, Dorchester	1	1	0
A. H. Towne, Stoke Newington, N. 16	1	1	0
Previously acknowledged	912	16	0
_	_		_

£921 4 0

OBITUARY.

GEORGE WILFRED MURCH HAYDON, M.R.C.V.S., Midsomer Norton, Bath. Graduated, Lond: Jan., 1885.

Mr. Haydon died, after a few days illness, on Thursday, 15th inst., aged 53 years.

FEES FOR INSURANCE WORK.

Sir,-If an over-taxed memory is not playing me tricks, it is not long since your columns were open to a discussion of the Insurance Fees question upon which Mr. R. J. G. Voisin writes in your current issue.

It seemed to me then that some of your correspondents,

and now Mr. Voisin, do not see this question whole.

It is a fact that insurance of live stock can only be made profitable to the client or high contracting parties if the cost (including professional opinion) is kept down to a very moderate figure. If for instance a poor man can insure his £15 animal for 15/- he will do so, but if the cost is doubled by reason of the V.S. requiring a larger fee, then he will by reason of the V.S. requiring a larger fee, then he will not insure. The companies work on a small margin and the agents on small fees. The veterinary surgeon even at 5/- is relatively better paid than the other parties to the deal. The companies do not ask the V.S. to "motor out a distance of five miles," etc., but to make the inspection at an early date when in the neighbourhood. The examination is that a general one occupying but a few minutes of an early date when in the heightouthood. The examination is but a general one, occupying but a few minutes at the most, and does not carry with it the responsibilities of exams. as to soundness. It is a commercial proposition. Is the animal a fair risk? is all the V.S. need ask himself in order to do justice to the parties concerned.

OLD OBADIAH.

ABNORMAL TEMPERATURE.

Sir, -You were good enough to publish what I believe to be a record temperature case that came under my notice, and I asked, as a back number, if someone would kindly explain. Are my learned juniors all too modest to en-lighten an old fellow? The animal whose temperature reached 108.4, and fell to

normal next day. showed no signs of illness, and went to work. A month later he was sent away.

H. LEENEY.

Veterinary Societies - Addresses.

BORDER COUNTIES V.M.S. Pres: Mr. H. Barrow, M.R.C.V,S., Ireby, Carlisle Hon. Sec: Mr. R. Craig Robinson, M.R.C.V.S., Carlisle Meetings, Second Friday of Feb., June, and October

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Meetings, Third Thursday, March, July and November

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88 Crookston Street, Glasgow Meetings, Second Wednesday, May, Oct. and January

RECORD VETERINARY

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1534.

DECEMBER 1, 1917.

Vol. XXX.

PROF. A. E. METTAM.

The death of Prof. Mettam removes one of the most representative scientific workers of our generation, one who has the additional distinction of having accomplished a unique national service in

veterinary education.

Prof. Mettam's veterinary life was not a very eventful one. His college career was brilliant; and, like others who are destined to leave names in the profession, he concluded it as a FitzWygram prizeman, winning the first FitzWygram award in 1889. Soon afterwards he joined the staff of the Dick College, at which he had been trained, and succeeded Sir John M'Fadyean in the chair of Anatomy and Histology when the latter left for London in 1892. A few quiet years of teaching anatomy and histology followed, during which Prof. Mettam commenced to make a name by some valuable articles upon comparative histology. Gradually, but surely, his reputation extended; and he was appointed first Principal of the Royal Veterinary College of Ireland at its establishment. Here he remained till his death, taking up the professorship of pathology and bacteriology in addition to his organising and superintending duties; and his career in Ireland must be regarded as his main life-work.

The Dublin College was opened in 1900. Ireland had not had a veterinary school; and, though there was no doubt that the country needed one, opinions were somewhat divided as to the chances of the venture. Bad management in the first few years might have proved fatal; but the Principal, in addition to his scientific attainments, was a strong, level-headed, and tactful man of affairs. It is known that the Governors trusted much to Prof. Mettam in everything relating to the inception and working of the school; and events have proved that their confidence was well placed. We all know how rapidly the Dublin College has advanced. In the number of its students, the standard of its training, and the calibre of its graduates, it is one of our best schools. It has been so for years pastand it was only opened seventeen years ago. Many men have some share in the credit for its brilliant success; but the greatest credit is due to the man

who was at the helm throughout.

In addition to his earlier histological studies, Prof. Mettam did some valuable research work in pathology and bacteriology; and took a prominent part in the public life of the profession. He held of the head, then the eyes would open widely again. the George Heriot Research Fellowship in Science There were twitchings in various parts of the body, in the Edinburgh University. He edited the Veterinarian, in succession to Prof. Macqueen, from 1895 to its termination in 1902. A Member of Council since 1901, he attended the meetings with remarkable regularity; and was a hard worker, box where she soon went down, and lay with the

though not given to speaking oftener and at a greater length than was necessary. He was a Vice-President in 1903, 1904, and again in 1907, 1910, and 1913. The Council paid him the unusual compliment of electing him as President for two years in succession, in 1911 and 1912. Long before, in 1900, the Council had recognised the merit of his scientific writings by awarding him the Steel Memorial Medal.

In the twenty-eight years of his professional life, Prof. Mettam accomplished enough to assure him a worthy place in veterinary history. He accomplished something as a research worker, and more as a pioneer organiser of veterinary education. Every agricultural country ought to have a veterinary college, as the scientific centre of the profession upon which agriculture so greatly depends. Ireland, which had no such college less than twenty years ago, has now a flourishing one. That is much; and the fact that the College is recognised as one of the most efficient in these islands is more. Mettam had more to do with accomplishing this great work than any other man; and the Dublin College to-day is his best memorial.

CHOREA IN THE COW.

By W. R. DAVIS, M.R.C.V.S.

During the past few years I have met with several (perhaps six) cases of what is evidently a cerebral affection in cows which has puzzled me, and which I have thought closely resembled chorea in human beings. These cases have all occurred in oldish cows, far gone in calf and nearly dry, and all in cows that have been noticed to be doing very well. The symptoms are alarming, and in all my previous cases the owners, on learning that the disease was due to a brain affection, would take no chances, and promptly had the animals butchered. With your permission I will describe my last case.

Ten days ago I received an urgent message to come to a farm five miles away to attend a cow. On arrival I found a seven-year-old shorthorn cow in an enclosure leading to a loose box. She was standing, and appeared to be very stiff. breathing was rapid and she was wet with sweat. Every few seconds the eyes would be violently snapped to, causing a sort of grimace, and a shake On making the animal move each limb was violently flexed exactly as though they were affected with pronounced string-halt.

With a little difficulty we got the patient into the

eyes spasmodically shutting and opening, and the body and limbs convulsively twitching. Fæces and urine had been passed normally. On taking the pulse at the fetlock the artery was found to be extremely prominent and intense, and the pulse strong and full, but the beats were only fifty per minute. Temperature was 103. Food had been taken early in the morning, but now was refused.

This cow was six months gone in calf, was nearly dry, and had been doing remarkably well recently.

Having persuaded the owner not to send for the butcher (as he was disposed to do) I prescribed a few doses of chloral and potassium bromide. That night she ate a bran mash and some long

On the following day I found the cow standing stiffly in the door of the loose box busy chewing the cud, her eyes shutting and opening at frequent intervals, and the limbs shaking and twitching; but she was not sweating, the breathing was much more natural, the twitchings, etc., were not so violent, and when the cow was moved the limbs were not caught up so convulsively.

The improvement continued, and the patient has

now quite recovered.

NOTES ON EXAMINATIONS.

By AN EXAMINER.

These notes are written with a view to assisting candidates for the diploma granted by the Royal College of Veterinary Surgeons, by one who had had a large experience of examinations held by various examining bodies.

At the outset it must be distinctly borne in mind that the candidate who would acquit himself worthily must come to the examination room intelligently prepared on the subject or subjects on

which he is going to be examined.

Sound nerves and self-possession play an important part, while expedition in writing is also an element of advantage. Both the memory and the reasoning faculty must be in a healthy and active condition.

The operations of eye and ear must be followed up by the mental processes conducted through the

instrumentality of these organs.

Many candidates make bold attempts to gain credit for knowledge which has obviously never been acquired, and by a succession of platitudes, extending not infrequently to pages of foolscap, they will endeavour to earn the good graces of the individuals who sit on judgment upon their effort. Good answers to questions never take the form of elaborate essays. The best papers are indeed conspicuous for their brevity. They deal with the main points at issue in a clear and definite manner without the verbiage too often employed in endeavouring to cover a hazy understanding of the question asked.

When a candidate is handed the examination questions, probably his best course is first to carefully scan the list and determine which of the series lively and very vivacious he became inert; and his he can answer best.

It is a salutary rule to avoid hazardous experiments and to write out in the first place what is certain knowledge, before proceeding to deal with other questions, success in which is problematical. The time allotted is usually sufficient to allow of a preliminary draft being made of the answer, and after due revision and careful excision of all extraneous matter, a clean copy should be transferred to the book destined for the examiners. Very few questions can, in our opinion, be satisfactorily answered without a preliminary proceeding of this kind, which serves a twofold object, (first) to ensure the answer appearing in a concise form, and (second) to avoid erasures and interlinings. A slovenly, blotted paper, with numerous deletions and additions, does not commend itself with favour to an examiner.

In answering questions the greatest care should be taken to understand precisely what is required and to answer that and nothing more. No marks are ever awarded for information supplied outwith the scope of the question. An examiner does not dispute the erudition of a candidate who supplies extraneons information; the point is that it does

not answer the question specifically set.

Careless handwriting and bad spelling are of frequent occurrence, and candidates who take the trouble to avoid both, and to hand in neat and tidy papers will usually find the examiners are more easily satisfied. Students should remember that practically the only time that the examiners have for reading the written papers is the time spent travelling between the different centres of examination.

Where possible, answers should be illustrated by

a sketch or rough diagram.

It is remarkable how closely text-books and notes taken at lectures are followed, practically word for word. It is preferable that the answers be given in the student's own language.

ABSTRACTS FROM FOREIGN JOURNALS.

OSTEOMALACIA AND OSTEOMALACIC PARESIS IN A YOUNG MONKEY.

Prof. Guido Finzi recently observed this case, and described the history and symptoms with considerable detail in a clinical lecture.

The monkey, a male, about $2\frac{1}{2}$ years old, had been brought from Brazil 26 months before. He belongs to a species (Macacus Rhesus) which requires from three to four years to attain full growth. He had been fed with fruit and with the same foods that were consumed by his owner's family. In fact, he relished all soups, meat, bread, and especially milk.

About eighteen months before Finzi saw him he began to present disturbances in walking, every movement appearing to necessitate a great expenditure of muscular force. This increased, and with it a progressive loss of spirits appeared. From spirits and energy disappeared. Finally he remained always lying in a special position, with the lower limbs flexed upon the thighs, and the thighs upon the pelvis, while the thoracic limbs were almost constantly held crossed upon the breast. He did not succeed in extending his arm in order to take up food, and perhaps did not attempt it on account of the pain it would cause; but he easily conveyed food to his mouth if it was placed in his hands.

The digestive functions were not at all depressed; the appetite was preserved, and defecation was normal. Urination was also normal. According to the owner, the hearing, taste, smell, and voice did not seem to have undergone appreciable modifications. The monkey was profoundly apathetic, but conscious.

The visible mucous membranes were anemic. The glands accessible to examination were of normal size and consistence. The pulse was rather frequent; the rectal temperature was not febrile; and the cutaneous temperature was normally distributed.

The muscular masses were in a slightly hypertonic condition, which was most manifest in the muscles of the pelvic limbs. The flexion of the pelvic limbs could be forcibly increased without causing any special reaction on the part of the animal; but it was difficult to forcibly extend the extremities, and to do so caused very loud crying. The muscles were hyperalgic; and it was evident that even lightly touching them caused very acute pain. The localisation of sensibility was preserved. The sensitiveness of the bones and joints was very exaggerated.

The bones were notably altered in form; they were soft, and could be bent in every direction with the minimum of force. Those of the cranium were so soft that their palpation resembled the pressing of a rubber ball. The thoracic bones were also soft, and were compressed laterally. The clavicle was arched forward. The sternum was also arched forward and projecting; and the bones of all the limbs were of incredible plasticity. The bodies of the vertebrae were exceedingly soft; and the last dorsal and the first lumbar vertebrae formed a slight scoliosis. The pelvis was deformed as a result of pressure transmitted by the femurs. The functioning power of all the muscles was so reduced that the case was really one of osteomalacic paresis; but the paresis was essentially spastic.

Radioscopic examination gave very interesting results. In addition to the abnormal curvatures and deformities of the bones, there was a most notable transparency of almost all the bones in the skeleton as a result of the rarefaction of the osseous tissue. The only bones which did not show this transparency were the last coccygeal vertebræ.

The eyes were very lively. The pupils were uniform, and reacted neither to light nor pain. Physical examination of the heart and lungs was not practicable, as the animal cried so loudly whenever touched. The respirations were rather frequent; but there was no cough. The tuberculin test gave negative results.

The animal was destroyed; and unfortunately no post-mortem investigations were possible. Finzi does not know of other observations of this disease in the monkey.—(La Clinica Veterinaria).

W. R. C.

STANDARDS OF MEAT INSPECTION UNDER WAR-TIME AND OTHER CONDITIONS,* by THOMAS PARKER, F.R.C.V.S., Veterinary Officer and Inspector of Meat, Provisions, etc., to the City and County of Newcastle-upon-Tyne. [Abridged.]

As the condition that accounts for the majority of home-killed cattle that are condemned is tuberculosis, it is intended, for the purpose of discussion, to confine attention to carcases of cattle affected with that disease.

Before attempting to formulate a standard, certain aspects of the subject should be considered, namely: (1) Traffic in diseased meat: (2) Whether bovine tuberculosis is transmissible to man: (3) Methods and risks of infection: for it is more or less upon these that one should base a judgment, not only as to the standard of inspection, but, if necessary, the application of it.

inspection, but, if necessary, the application of it. Traffic in diseased meat. It is a well-known fact that there are individuals who regularly attend markets and auction sales and purchase animals which are popularly known as "shots" or "chancers." Often when an animal, fat or otherwise, takes ill on the farm, the animal is taken either to some other market, or carted to a slaughter-house and dressed (either by day or night), and the carcase sold, irrespective of its condition. Sometimes the animal may be slaughtered on the farm: if diseased, the internal organs are buried, the carcase is prepared and neatly packed in wrappers, and sent to where there is a ready market. In some cases a good profit will result. In others the owner will come to grief, and, besides having a heavy penalty inflicted, will be distinguished by his failure forming the subject of a newspaper report of police court proceeeings.

It is a fact that there are butchers engaged in a goodclass family trade who, whenever they happen to have a beast affected with the disease, without hesitation remove the apparently diseased parts, and sell the remainder. In some cases they prefer to send the diseased meat elsewhere rather than dispose of it in their own shops. Fortunately, however, owing to their becoming more alive either to the dangers attending such meat, or its inspection, the practice is not so common as it used to be. In a city such as this, where there exists a highly organised and well-managed butchers' association, through which its members may insure their cattle, and particularly as cows are treated as suspects, and therefore uninsurable, the incentive to take unnecessary risks is reduced to a minimum. It must not be assumed, however, that diseased meat cannot pass on to the market; for, owing to the impossibility under the present slaughter-house system of inspecting more than a small proportion of the carcases, a real risk necessarily remains.

Again, in some establishments where a large number of carcases are prepared, even when diseased organs have been detected, owing to overcrowding great difficulty has been experienced in finding for examination the carcase to which the diseased organs belonged. Cases have occurred where the butcher had detained a carcase with the full expectation that it would be condemned for tuberculosis, but which to his surprise, after inspection, was released as not tuberculous. On

^{*} Read at Provincial Sessional Meeting of The Royal Sanitary Institute, at Newcastle on November 9th.

carcase which he believed to be quite sound, totally conexamples of cases where not only the public, but also honest meat traders, require some protection. Nevertheless, owing to the system that obtains at present, the possibility of detecting many of the diseased conditions is reduced to one of chance.

's bovine tuberculosis transmissible to man? [Mr. Parker here refers to some of the work and findings of the Royal Commission (1911), but adduces no

evidence of infection from tuberculous meat.]

The dangers of tuberculous meat. Is there any danger attached to eating tuberculous meat? If the meat contained bacilli and were consumed in an unsterilised condition, then the risk of becoming infected would undoubtedly exist; and as having a direct bearing on the subject is the question as to whether meat from tuberculous animals, even when the visibly diseased parts have been removed, carries living tubercle bacilli. From certain experiments carried out in the laboratory of the public slaughter-house by Hansson, Veterinary Officer, Stockholm, during 1912 and 1913. One hundred and fifty-three investigations were made with blood obtained from cattle, calves, and pigs affected with the disease in various stages. Guinea-pigs were used for the inoculation tests, and whenever these animals, as a result, were found tuberculous, specimens were obtained from the lesions and examined microscopically, and it was upon the latter that the diagnosis in each case was cast. In 1913, 126 investigations were made. Of these, 116 gave negative results, and in the remaining 10 (or 8 per cent.) the blood was found to contain tubercle bacilli. During 1912, out of 27 cases investigated, in 10 (or 37 per cent.) the blood contained tubercle bacilli. Not only in the ten cases which gave positive results, but also in the 17 cases which gave negative results, the animals were subjects of highly developed tuberculosis of the lungs, combined with lesions on the chest and abdominal walls, and in one or more of the internal organs. It is almost certain that in those cases where the disease is localised the blood does not contain tubercle bacilli, but once the disease is established there is always the risk of it becoming generalised. In Hansson's report the following statement occurs in reference to one of the cases found positive, namely: "In the one one case it was the matter of highly developed acute miliary tuberculosis of the lungs, together with tuber-culosis of the pleura and peritoneum, but without signs of generalisation." This statement is difficult to accept; for, providing acute miliary tuberculosis of both lungs existed, and, besides the presence of tuberculosis of the pleura and peritoneum, tubercle bacilli were found within the blood, then the case was undoubtedly one of "generalised tuberculosis.

At this stage I would like to notice a phase of [the question that is overlooked when the dangers of tuber-culous meat are discussed—handling of diseased meat from the time of slaughter until about to be cooked. It is not uncommon to find that on opening a carcase, or during the removal of the internal organs, huge tubercular growths and abscesses are cut, sometimes giving cular growths and abscesses are cut, sometimes giving exit to large quantities of liquid tuberculous matter. Immediately the slaughterman uses a cloth, rinsed out with water, to wipe off the liquid matter from the interior of the carcase, and often, during the process, unwittingly smears other parts of the internal surface. Sometimes the exterior of the carcase is splashed, and even the slaughterman does not always escape. carcase dries up during the process of setting, and when the inspector is called in, little or no visible evidence of the infective material remains. In districts where supervision is inadequate, after the large growths have been removed, the liquid filth wiped down with a dirty cloth and the internal organs buried, and so on, the remainder

the other hand, he has been equally surprised to find a of the carcase is, as usual, either sent to another district to be sold, or is cut up to be sold at home. Is it not possdemned on account of that disease. These are simple lible for such meat to contaminate the hands or clothes of the housewife, tables, plates, knives, or other articles within the home? Is there not a real risk of such meat on reaching the pantry, being the means of contamina-ting the milk which is consumed in the raw state? Ordinary house flies passing to and fro between the meat and the milk basin is a natural process. If we are all agreed that when man contracts the disease the result may prove fatal, no matter the source of infection, then I think the point I have endeavoured to raise is of some importance.

I would like to briefly refer to a case which will, I believe, illustrate the danger of handling tuberculous meat. Between three and four years ago (Journal of Comparative Pathology and Therapeutics, Vol. xxix., p. 367), a young Dutch veterinary surgeon, who from time to time suffered from chaps and cracks on the inside of the thumb of his right hand, contracted the disease whilst engaged in the examination of a large number of tuberculous pigs. He sought medical advice, but failed to bring about a cure. He then consulted a surgeon, who removed part of the thumb and the axillary gland. Several months elapsed before recovery was complete. Material from the excised gland was used for inoculating guinea-pigs, and gave positive results. From the lesions set up in these animals specimens were examined microscopically and tubercle bacilli found.

STANDARDS OF INSPECTION.

In some districts it has been the practice to condemn the entire carcase and organs whenever, by a superficial examination, the slightest evidence of disease was detected. In others, even where the entire caccase was not confiscated, the extent of the disease was determined on practically the same principle, that is to say, the question as to what should be condemned or released depended on the size and number of tuberculous growths apparent. Needless to say, this method is not a sound one, for whilst in certain cases a considerable amount of wholesome meat may be unnecessarily destroyed, it is equally certain that in others a considerable amount of diseased meat may reach the consumer.

The standards generally recognised may be considered under the following three headings, namely:-1, The condemnation of the entire carcase and organs; 2, The condemnation of a part of the carcase or organs, and allowing the remainder on to the market unsterilised; 3, The condemnation of a part of the carcase or organs, and allowing the remainder on to the market after be-

ing sterilised.

Owing to the existence of varying opinions, and the difficulty of obtaining uniformity of practice throughout the country, the Royal Commission on Tuberculosis (1898) made the following recommendations to the Local Government Board :-

The entire carcase and all organs may be destroyed-When there is miliary tuberculosis of both lungs. When tuberculous lesions are on the pleura and peri-

When tuberculous lesions are in the muscular system, or in the lymphatic glands embedded in or between the muscles.

When the tuberculous lesions exist in any part of an emaciated carcase.

The carcase, if otherwise healthy, shall not be concondemned, but every part of it containing tuberculous lesions shall be seized-When the lesions are confined to the lungs and the

thoracic lymphatic glands.

When the lesions are confined to the liver.

When the lesions are confined to the pharyngeal lymphatic glands.

When the lesions are confined to any combination of two membranes have become attacked the condition the foregoing, but are collectively small in extent.

In the recommendations, the following also appears-In the recommendations, the following also appears—
"In view of the greater tendency to generalisation of
tuberculosis in the pig, we consider that the presence of
tubercular deposit in any degree should involve seizure
of the whole carcase and of the organs."

As a general guide, little fault can be found with

these recommendations; but owing to the great variety of cases presented, to precisely place a carcase either in one class or the other is not always easy of achievement.

Distribution of the Lesions.—On examining carcases of beef, one finds that the commonest seats of the disease are the bronchial and mediastinal glands and the lungs; in fact, in about 90 per cent. of the cases one finds these glands affected. Whenever the disease exists in the lungs it is generally found that these glands are affected also, but they may be affected alone. Supposing tubercle bacilli are inhaled with the lung, bupposing tubertoe backin are intared with the fung, they may quickly pass by the lymph stream to the bronchial or mediastinal glands without giving rise to any lesion in the lung tissue. These lesions take the form of small tubercles. In about a fortnight or three weeks they become plainly visible, i.e., about the size of mustard seeds.

Where only a small number of the organisms have been arrested within the vessels of the lung tissue, there results tubercles which may be distributed wide apart, and each attain a considerable size before the animal becomes seriously ill. When once the development of one or more of these tubercles becomes established a certain amount of irritation occurs, resulting in a cough. The organisms may be coughed up and then aspirated down other branches of the bronchial tubes, and in that way give rise to many new centres of disease, finally that way give rise to many new centres of disease, finally resulting in the development of a caseating nodular tuberculous broncho-pneumonia. Again, the tubercle bacilli from the very earliest-formed tubercles may be carried by the lymph stream to the pleural membrane covering the lungs, thus giving rise to an attack of pleurisy. Similarly, the tubercle bacilli may pass from an affected bronchial or mediastinal lymph gland. Then once the pleural surface is infected, the disease may spread from the membrane on the outside of the lungs to the membrane lining the chest cavity. And this condition may be aggravated by the respiratory movements, the parietal and visceral surfaces rubbing together. When the diaphragmatic pleura has become affected there may be an extension of the disease from the chest to the abdominal cavity by organisms carried by the lymph stream through the diaphragm. Once the abdominal cavity has become infected the disease may be further spread in precisely the same way—by way of the lymph vessels, or owing to the parietal and visceral membranes rubbing one another. On the other hand, supposing the organisms reach the intestinal canal hand, supposing the organisms reach the intestinal canal as a result of swallowing the coughed-up material from the lungs, or by means of ingestion in the ordinary sense, the organisms may be absorbed through the intestinal mucous membrane, be carried by way of the lymph vessels, and eventually reach the blood stream by way of the right side of the heart. In this way, organisms may reach the lungs, and give rise to an extend of the carrylous preumonia as a result of ingesting the control of the carrylous preumonia as a result of ingesting the control of the carrylous preumonia as a result of ingesting the control of the carrylous preumonia as a result of ingesting the carrylous preumonia as a result of the carrylous preumonia as a carrylous preumonia as a attack of tucerculous pneumonia, as a result of inges-Or the organisms may be arrested, and give rise tion. Or the organisms may be arrested, and give rise to lesions in the mesenteric glands. From these, they may spread, and cause tuberculous peritonits. From a tuberculous peritonitis, the disease may spread by the lymph stream until the diaphragm is reached, finally passing through the latter by way of the lymph vessels, and on reaching the chest cavity set up a tuberculous pleurisy. It will be seen, therefore, that we may have a tuberculous pleurisy caused by ingestion, or a tuberpleurisy. It will be seen, therefore, that we may have a tuberculous pleurisy caused by ingestion, or a tuberculous peritonitis resulting from a primary attack within the lungs, and so on. Whenever either of these premises known as the Friebank. These are shops

may gradually extend until there developes, either within the chest, abdomen, or both, large growths, almost like clusters of grapes.

Other common seats are the liver, hepatic glands, pharyngeal glands, submaxillary glands, glands of the chest and abdominal walls. Sometimes the udder, supra-mammary glands, kidneys, uterus, and even the brain, testicles, or ovaries may be attacked. Of course, the disease may be found in almost any organ or gland,

and even in the bones, although but rarely.

Generalised Tuberculosis.—Sometimes the disease is spoken of as generalised, as distinguished from localised, and sometimes as primary or secondary. Whenever the disease occurs naturally it commences as a local process. Once the disease has become established, however, there always exists the danger of the condition becoming generalised. For example, a vein may become involved in a tuberculous lesion, which may break down the vessel wall and liberate into it tubercle bacilli, or as previously mentioned, tubercle bacilli may reach the thoracic duct from the lymph stream, and be discharged into the venous system at the right side of the neck. Assuming that a large number were thus liberated, the majority would probably be arrested in the capillary vessels of the lungs, and there lead to the development of miliary tubercles. And whenever one finds miliary tuberculosis of both lungs, one may be certain that a large number of organisms have been carried within the blood stream. The condition referred to is the best visible or outward evidence of "generalised tuber-culosis." In such a case one invariably finds lesions elsewhere. In a case of generalised tuberculosis one may find the lung lesions exceedingly minute, with large lesions in the mesenteric glands, but no visible evidence of the disease in the carcase, i.e., in any of the quarters of beef; on the other hand, one may find a case with no evidence of generalisation, and yet find all the quarters of beef extensively affected with the disease.

It is hoped that these few remarks will serve to illustrate the difficulty in many cases of determining when the disease is localised and when it is not, and the absolute necessity for an extended examination when-ever it is intended to allow any unsterilised meat on to

the market from tuberculous cattle.

Modification of Procedure.—Owing to the recent shortage and high prices of meat, various local authorities have had under consideration the question of modifying their method of procedure regarding the condemna-tion of carcases. If the principle of passing one part and rejecting another of the same carcase is to be adhered to, and the standard is to be based on the recommendations of the Royal Commission, then it necessarily follows, in the absence of an extended examination and dissection, that a considerable amount of meat as sound as the parts passed is likely to be destroyed. To obviate this, several local authorities have had under consideration the question of sterilising the entire carcases in certain cases after the removal of all visible evidence of disease.

Quite recently a series of experiments have been carried out in Glasgow by Mr. A. M. Trotter, Corporation Veterinary Officer, which go to show that meat from tuberculous carcases may be rendered absolutely innocuous without in any way interfering with nutritive properties. Mr. Trotter is of opinion that in Glasgow at least 300 tons could be conserved annually by sterilisation, and this would provide sufficient meat for 2,000,000 meals. In Newcastle the quantity of meat condemned annually, if dealt with in a similar way,

attached to many abattoirs in which the meat is sold under declaration to the public at a low price. Whenever sterilised tuberculous meat is allowed to be disposed of to the public in this country, its selection, preparation, sterilisation, and sale should be under the direct control and supervision of the local authority.

In conclusion one may state:—Neither war time nor any other conditions should be accepted as an argument in favour of lowering the standard of inspection in any degree, if by doing so the health of the consumer is

likely to be prejudiced.

Meat inspection can never be complete, and therefore a proper standard of inspection can never be attained, until private slaughter-houses are abolished and the slaughtering is carried out within central abattoirs.

In the absence of properly equipped abattoirs the preparation of meat for sterilisation would be not only

undesirable, but dangerous.

Dr. Boobyers said there was no doubt a large amount of food was lost by destruction from disease, but there was a system on the Continent by which much was saved, through the process of very thorough cooking, and in view of the expected food shortage it was highly desirable the Institute should discuss the matter thoroughly. He fully agreed with Mr. Parker as to the necessity for public abattoirs if proper supervision was to be exercised. Enormous difference could be seen in meat displayed in towns with abattoirs and those without. He strongly advocated a system of tuberculous meat sterilisation, but only under adequate official

Dr. Cameron, tuberculosis officer for Durham County, said that outside big cities there was considerable trade in diseased meat. He believed, however, that if parts locally affected with tuberculosis in an animal were removed, the remainder of the beast would be un-

affected.

Dr. Heslop, North Shields, joined with other speakers in condemning private slaughterhouses, and expressed the view that the great need was inspectors thoroughly conversant with parasitic and bacterial disease.

Other speakers generally agreed with Mr. Parker's

conclusions.

Tuberculous Cow: breach of warranty case re-opened at Carnarvon.

In the case of Ann Roberts, of Dolgae, Llanllyfni, against E. Williams, of St. Beuno Hotel, Clynnog, Mr. Richard Roberts, acting on behalf of the plaintiff, and Mr. William George for the defendant, the plaintiff's solicitor made an application to his Honour Judge Moss, at the Carnarvon County Court on Nov. 14th, for a new trial of the action, on the grounds that the cow in question was not in perfect health at the time of sale, that she was not in perfect health on the 19th of May, 1917, as per letter written by defendant, that there was a breach of warranty, and that the cow was suffering from tuberculosis. He stated that when the case was first before the Court, he called evidence to prove that the cow in question was suffering in April, at the time of sale, from tuberculosis, and Mr. O. Trevor Williams, of Glan Aber, Llangefni, veterinary surgeon, gave evidence, and explained fully that the cow was beyond any question of doubt suffering from tuberculosis and was

unsound in every respect on that account.

The defendants called Mr. Wynn Lloyd, veterinary surgeon, of Carnarvon; Mr. G. J. Roberts, veterinary surgeon, Pwllheli; and Capt. Edwin Patrick, a veterinary surgeon with the Royal Engineers stationed at Carnarvon. They swore that they had made a minute

ing from tuberculosis, that she had withstood the test, and that they had no doubt whatsoever that the cow was perfectly free from tuberculosis, and sound as per

warranty gievn.

At the following Court his Honour suggested that he should name a gentleman to examine the cow, and report to him the result, as the expert evidence was so conflicting, and that the parties should equally bear the expense of an expert witness to be named by him. His Honour appointed Mr. W. J. Fletcher, a member of the Royal College of Veterinary Surgeons, Wrexham, to examine the cow, and his report to the Judge was, that he was of opinion that the cow was recovering from an illness with affection of the broachiel table but that he illness with affection of the bronchial tube, but that he was unable to say that this was or was not present so far back as the 13th of April last, the date upon which the cow was bought, that he did not eonsider the cow tuberculous; that had such been the case the cow, in his opinion, would at the time of calving and during the lapse of time, 14 weeks, have shown further clinical symptoms of the disease, but on the contrary, the evidence given, and the then present condition of the cow, went to show that she is improving, that he found the cow feeding in a field and that she was breathing nor-mally, and he was shown a good calf which, it was said, she had delivered on the 18th of May. Upon this report, which confirmed the statement of three other veterinary surgeons, that the eow was not suffering from tuberculosis, his Honour found that the cow at the time of sale was not suffering from tuberculosis, and consequently no breach of warranty, and gave judgment for the defendant on the claim with costs, and on the

counter-claim for the plaintiff, with costs.

Since the judgment, the plaintiff had the cow removed from the defendant's premises, and the calf, and as she was getting worse from day to day and on the point of dying, it was deemed proper to send her to Llangefni to the premises of Mr. O. Trevor Williams to be slaughtered and to have a thorough post-mortem examination made to ascertain fully what the cow was suffering from.

POST-MORTEM.

Notice was given in due course to the defendant's solicitors, and on the 15th October, 1917, the cow was slaughtered and a post-mortem examination held in the presence of Mr. O. Trevor Williams, Dr. Llewelyn Jones, the Medical Officer of Health for the County of Anglesey, and Mr. John Matthews, veterinary surgeon, Llanfair P.G., on behalf of the plaintiff, and Messrs. W. Wynn Lloyd, veterinary surgeon, Carnarvon, and Mr. G. J. Roberts, veterinary surgeon, Pwllheli, on behalf of the defendant. The result of the post-mortem examination was agreed to by all the expert witnesses present,

Mr. Richard Roberts then read the reports. The report of Dr. G. Llewelyn Jones was as follows:—
"On this day 1 witnessed a post-mortem examination

on the carcase of a cow at Glanaber, Llangefni. There were present Messrs. O. Trevor Williams, J. Matthews, L. W. Wynn Lloyd and G. Jones Roberts, veterinary surgeons. The examination showed the cow to have been suffering from general tuberculosis of long standing, all the internal organs and glands being affected; the principal lesion was in the left lung, the pleura being adherent and both being covered with miliary tubercles, as well as evidence of old standing disease, that is, the fairly considerable parts that were calcified."

Mr. John Matthews in his report stated:—On Mon-

day, October 15th, I attended a post-mortem examina-tion of a cow at Glanaber, Llangefni, in company with Messrs. G. J. Roberts, W. Wynn Lloyd, and Mr. Trevor Williams. There was also present Dr. Llewelyn Jones. Carnarvon. They swore that they had made a minute examination of the said cow and that she was not suffer-culosis in all stages of development, the organs more particularly affected being the lungs, stomach, liver and udder. The left lung was throughout its entire length adherent to the side of the chest and covered with a large number of multiple miliary tubercles of long standing. The right lung was also diseased, but not having reached the advanced state of the left lung. The liver was similarly diseased, the stomach and udder as well showed marked symptoms of tuberculosis. All present at the examination agreed the cow was in an advanced stage of tuberculosis at the time of sale six months ago. For this reason it was considered not necessary to send the parts to pathologist to report on."

necessary to send the parts to pathologist to report on."

The report of Mr. O. Trevor Williams was also read and was as follows:—"On the 15th October, the cow, the subject of the County Court action, was killed at 2 p.m., and the carcase was opened in the presence of Messrs. L. W. Wynn Lloyd, v.s., Carnarvon, and G. Jones Roberts, v.s., Pwllheli, acting for Mr. Watkin, and the following watched the P.-M. for me: Dr. G. Llewelyn Jones, Llangefni, and Mr. J. Matthews, v.s., Llanfair P.G. The examination proved to all present that the cow had been suffering from tuberculosis of a very long standing. All the internal organs were studded with miliary tubercles, the lesions extending to all the lymphatic glands, and one quarter of the udder was highly affected, the thoracic cavity evidently being the primary seat. The left lung was completely fixed to the pleura (the covering of the ribs) with a considerable growth of multiple tubercles. The left lung had lost all its functions and become consolidated with degenerative changes:—
1 caseation, 2 calcification, that is the cheesy parts had become calcified with deposits of irregular granules of carbonate and phosphate of lime. This kind of change is most marked in chronic and long standing tuberculosis of the lung in the ox. The right lung was also highly affected, but in a more acute stage, showing considerable area of pleurisy and miliary tubercles studded all over the pleura and the serous covering of the lung. There were also in this lung some caseous masses thoroughly calcified.

In the presence of all present I asked them to agree as to the duration of the lesions found. I ventured to suggest that in my opinion, the cow had been suffering for over two years. I also stated my intention that, failing to agree, as to whether the cow suffered or not at the time of sale, I was going to send the lungs to the eminent pathologist, Sir John M'Fadyean, of London V. College. Messrs. Lloyd and Roberts agreed that the cow was tuberculous at the time of sale last April."

JUDGMENT.

Mr. Richard Roberts contended that having regard to the result of the post-mortem examination, a mistake having taken place at the original hearing, it would be a substantial wrong and a serious miscarriage of justice if the original judgment were allowed to stand, as in the altered circumstances there was no evidence to support the same, and at the request of the defendant's solicitor he read two letters, the first having been received on the 23rd October from Messrs. Lloyd George and George acting for the defendant, in which they stated: "We have now received our client's instructions upon the notice of application for a new trial served by you herein, and having regard to the result of the postmortem referred to therein, we beg to inform you that the defendant is now prepared to admit that he was in error in believing that the cow was a sound and healthy one at the time it was sold to the plaintiff, and as his Honour had already found that she was warranted as such by the defendant, it follows that the defendant is liable to the plaintiff in damages for breach of warranty; and the only question, therefore, still outstanding between the parties is, what the exact amount is which the plaintiff ought, therefore, to recover in this action.

We should be glad to hear from you on this point at your earliest convenience."

Mr. Roberts stated that in reply to this letter he sent a statement of damages, and Mr. George wrote in reply stating that he considered some of the items were excessive, especially the item for loss of profit, which had been put down in the particulars at £6.

been put down in the particulars at £6.

Mr. Roberts asked His Honour to grant a new trial by consent and then to give judgment for the plaintiff for such sums as seemed proper to him by way of damages, and that as Mr. George was not present, he would leave the matter of damages entirely to His Honour.

Consequently the judge made the following order: "Order for new trial by consent of the parties at their request, the application filed to be treated as a new trial. At the request of the parties judgment by consent for plaintiff for £41 5s. 6d., made up as follows:—Price paid for cow, £27 2s. 6d., keep from 13th April to 27th April, 10s.; keep from 28th April to 14th May, 10s.; feeding meal for cow, 19s.; Mr. W. O. Jones, chemist, l'enygroes, account, 8s.; Mr. W. Wynn Lloyd, veterinary surgeon, account against plaintiff, 15s.; loss of profit, £3; plaintiff's son for travelling expenses, etc., £1; Mr. Trevor Williams for examination, £2 2s.; Mr. Matthews, veterinary surgeon, £2 2s.; Dr. Llewelyn Jones, £1 10s; slaughtering cow, etc., £17s.—£41 5s.6d and costs: one qualifying fee for Mr. O. Trevor Williams, the costs of judgment for the plaintiff on the counter-claim as previously given to stand.—Carnarvon and Denbigh Herald.

Tax on profits from a Stallion.

In the First Division of the Court of Session-the Lord President and Lords Johnson, Mackenzie, and Skerrington on the bench—counsel was heard in an Exchequer case in which William Taylor Malcolm, Dunmore Home Farm, Airth, appealed against a determination of the Income Tax Commissioners for the district of Falkirk fixing an assessment upon him for the year 1915-16 of £250 in respect of profits of the stallion Prince Ossian under Schedule D. Purchased by the appellant when a foal, Prince Ossian was reared and fed by him on Dunmore Home Farm as part of the stock of the farm on the produce of the farm. The horse is still fed and attended to by the ordinary farm servants in the appellant's employment. Since he was three years old, the horse has been used for the service of agricultural mares in the appellant's own possession, and, in addition, he sells the services of the horse to owners of agricultural mares. Many mares are sent to Dunmore to be served, while in other cases the horse is sent under the care of the appellant's servant to the stables of the owners of the mares, and service effected there. For the season—April to August, 1915—Prince Ossian was selected by the Stirlingshire Horse Society to serve mares belonging to members, and he also served mares belonging to the appellant. The appellant received £2 and £4 as stud fees from the society for each mare served and proved to be in foal, in addition to an initial payment of £60 from the society. He admitted that the gross earnings from the horse amounted to £290. As tenant and occupier of Dunmore Home Farm the appellant pays £580 of rent. He breeds and maintains a stud of Clydesdale horses, and also a herd of pedigree Shorthorn cattle. He is assessed for Income tax under Schedule B as tenant of the farm at £580. The farm is a mixed one of 400 acres, and the appellant also rents grass parks to the extent of 100 acres.

The Income Tax Commissioners were of opinion that the appellant must be assessed upon the profits made by him out of the employment of his stallion in serving mares away from his own farm. They held that the employment of a stallion for stud purposes for hire outside of his own farm was no part of the business of a

On behalf of the appellant, it was contended that he was not liable to be assessed on the profits made from Prince Ossian, as it was part of the appellant's business as a farmer, on which he was already assessed under schedule B.

The Court dismissed the appeal and affirmed the judgment of the Commissioners, with expenses to the

The Lord President said the appellant sold for money the services of the stallion. It was no doubt very convenient for him in connection with this business to have a farm, but it was by no means essential, and if it were profitable he would continue to carry on this business if his farm lease terminated to-morrow. Therefore his Lordship traversed at once and emphatically the one argument submitted by the appellant's counsel, that the possession and use of the stallion was an essential part of the farmer's business. It was not an essential part of the farmer's business. With reference to the use of the words "away from" the appellant's farm, if the Commissioners meant by that expression to indicate that the case would have been different if the mares had been brought to the stallion, then his Lordship disagreed, for it seemed to him wholly immaterial whether the stallion was taken to mares upon other farms or the mares brought to the stallion at the appellant's farm. His Lordship thought that in using the expression the Commissioners really meant "apart from." Thus interpreting it, His Lordship agreed, and was for upholding the judgment of the Commissioners.

The other judges concurred.—The Scottish Farmer.

Light and pigmentation.

A good deal of desultory work has been done on the subject of colouration in man and other animals, and on the markings in animals and birds; but as it does not lend itself to commercial exploitation to any appreciable extent it is not likely to be very keenly followed up. The horticulturist has used light-and shade-in his operations for many years, and with effect, but the following note seems to carry the question further, and it is not unlikely that a few years may see advances as important as those which biologists, following on the track of botanists, were able to make in recent years.

Col. H. E. Rawson, C.B., R.E., at the Royal Colonial Institute, produced a large number of examples of what sunlight was able to effect in changing the structure, colours, foliage, and other organs of plants. By experiments in screening the plants at selected intervals of daylight, changes of colour were effected without any possibility of cross breeding, yellows, scarlets, and crimsons transformed into purples as well as into one another, while condated variations of form had been produced simultaneously. Within two years a clump of dahlias had been transformed into a new purple variety unknown at Pretoria, and they were now growing freely in his Hertfordshire garden. With the change of colour marked changes had occurred in the foliage. The scent also changed with the colour. Experiments on nasturtiums produced multiform flowers, splashed with mauve, brown, and green on the same plant. Sometimes one branch would bear crimson flowers, while those on the rest of the plant were screened, and eleven became double, and only one remained single like the parent. The double form resembled a pink and white carnation, and one plant had three whorls of seven flowers each in tiers one above the other. A California tree, the Monterey pine, was of such slow growth and so poor in the quality of its timber that it was of no account there. Transferred by

seed to New Zealand, the change of soil and climate worked such wonders that in a few years it was reported to exceed most trees in the rapidity of its growth, and now produced an exceptional amount and quality of valuable wood, such as it never did in its American home."

Perjured expert Testimony.

"The work of Sanitary Inspectors and Health Officers in food cases would be much lightened were it not for the ease with which rebutting technical evidence can be

obtained by defendants.

No matter how bad a case, or what its influence upon public health, a veterinary surgeon can always be found to swear to the freshness of a stinking carcase or the health of a diseased animal. The scientific and technical witness swears only "to the best of his knowledge," hence the difficulty of allaying mala fides and instituting a prosecution for perjury. All we can say is that, if the majority of the witnesses for defendants are not perjuring themselves with full intent, their knowledge is not worth much."—Municipal Engineering and Sanitary Record, Nov. 22nd, 1917, page 379.

[This man appears to imagine a monopoly of "Expert evidence" by the veterinary profession. We can assure him he is mistaken in that. Somehow, the paragraph seems to suggest the hand of a budding "sub" on his chief's afternoon off for golf.]

ARMY VETERINARY SERVICE

War Office, Nov. 28.

The Secretary of State for War has received the following dispatch from Lieut.-General G. F. Milne, C.B., D.S.O., Commanding in Chief, British Salonika Force:-

General Headquarters, British Salonika Force. My Lord,—I have the honour to submit herewith a

list of the names of the Officers, Non-Commissioned Officers, and Men, whose services I desire to bring to your Lordship's notice for gallant conduct and distinguished services rendered during the past six months.

STAFF.

Lt.-Col. (temp. Col.) F. Eassie, c.M.G., D.S.O., A.V.C. Maj. W. A. Jelbart, A.v.c.

ARMY VETERINARY CORPS.

Capt. (temp. Maj.) E. C. Doyle; Temp. Capt. W. K. Johnstone; Temp. Capt. G. Moir; Temp. Capt. E. A. Mylrea; Capt. J. Smith; Temp. Capt. J. E. Syme; Temp. Capt. (actg. Maj.) S. L. Symonds.

Pte. (actg. Sgt.) W. M. Cooper, SE/3590; Pte. (actg. Cpl.) S. R. Donovan, SE/1779; Cpl. (L.-Sgt.) (actg. Staff Sgt.) H. Drury, SR/19; Pte. (actg. Sgt.) C. E. Hobbs, SE/9148; Pte. J. Long, SE/8059; Pte. (actg. Sgt.) J. Raeburn, SE/5065; Shoeing-smith (actg. Farr.-Sgt.) A. W. Riggs, SE/5779; Pte. (actg. Staff Sgt.) A. Salt, SE/4193; Pte. (act. Sgt.) S. Stirling, SE/10142.

Capt. J. A. Fearnside; Maj. W. L. Harrison, F.R.C.V.S.; Capt. G. E. Henson; Capt. (temp. Maj.) H. McVean; Sgt. J. H. Dennis, TT/0117.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Nov. 22.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lt. to be temp. Capt.:—B. Whittam (Oct. 31).

Temp. Qrmrs. and Hon. Lieuts. to be Hon. Capts.:—
J. H. Loane, C. Cooke, E. E. S. Armstrong, J. F.
Ives, M.C., T. F. Flood. W. J. Alderson, J. Wood,
W. J. Willous (Nov. 12); R. Owen (Nov. 22).

Nov. 23.

Temp. Lt. to be temp. Capt.:—A. A. Higgins (Oct. 9).

Temp. Lt. T. W. I. Gardiner relinquishes his commn. on acct. of ill-health, and is granted the hon. rank of Capt. (Aug. 23).

Nov. 27.

Capt. G. Williamson, to be actg. Maj. whilst comdg. a Vety. Hospl. (June 1). Temp. Lt. to be temp. Capt.:—I. E. Croken (Nov. 13).

Capt. W. Halstead, Spec. Res., to be actg. Maj. whilst empld. as Dep. Asst. Dir. of Vety. Servs., vice Maj. A. Leaning, D.S.O. (Oct. 10).

CANADIAN A.V.C.

Nov. 28. Asst. Dirs. of Vety. Servs. to be Dep. Asst. Dirs. Vety. Servs., and to retain their temp. rank:—Maj. (temp. Lt.-Col.) C. E. Edgett, Capt. (temp. Lt.-Col.) D. S. Tamblyn, Capt. (temp. Maj.) T. C. Evans (June 27). Capt. (temp. Maj.) T. C. Evans to be temp. Lieut. Col. whilst holding the appt. of Dep. Asst. Dir. of Vety. Servs. (June 27).

The following casualties are reported:-

DIED-Lt.-Col. F. U. Carr, attached Egyptian Army. WOUNDED-Capt. L. E. L. Taylor, Canadian A.V.C.

OBITUARY.

ALBERT E. METTAM, M.R.C.V.S., B.SC., Principal Rl. Vety. Coll. of Ireland, Dublin; Prov. Maj. A.V.C. (T.F.). Graduated, Edin: May, 1889.

Prof. Mettam's death occurred early this week. He had been in failing health for several months, and latterly his condition had given great anxiety to his friends. There is little doubt that his end was hastened by the occurrences in Dublin at Easter last year.

ALBERT WILLETT, Gresham Road, Staines.

Mr. Willett's death occurred on Monday, 19th Nov., at the of age 76.

"We much regret to announce the death of one of our most esteemed townsmen-Mr. Albert Willett, who, after many months of suffering borne with exemplary patience, passed peacefully away at his residence, on the morning of the 19th inst. For many years he successfully practised as a veterinary surgeon in the district, where he was widely known and respected. Of late years he had lived in well-earned retirement, and the practice which he founded is now carried on by his two sons, F. W. and A. E. Willett. The deceased leaves a widow and three sons and two daughters: Mr. F. W. Willett, M.R.C. V.S., of Staines; Mr. John Willett, of 6 Harley Place, London; Capt. A. E. Willett, A.V.C., who is now in charge of a mobile section in Salonica; Mrs. F. Tims, of Reading; and Miss Willett, who is with relatives in the United States; and there are nine grandchildren.

Although he took no part in the public affairs of the town he will be sadly missed by many friends.

The interment, in St. Mary's Cemetery, took place on

Thursday."—The Middlesex Chronicle.

WILLIAM Scott, T. Capt. A.V.C., Kingstown, Co. Dublin. Graduated, New Edin: July, 1883

"We regret to announce the death of Capt. William Scott, at Shanganagh Grove, Killiney, Co. Dublin.

The late Capt. Scott was born in the south of Ireland, and went through the South African war with the Mounted Infantry. He subsequently went to Australia, and came back at the time of the Jubilee with a contingent of Colonial troops. Afterwards Capt. Scott came to Ireland, where he was a well-known figure on the Turf. He brought with him from Australia the wellknown sire Abercorn, which sired many winners both in this country and in Australia.

Amongst the horses owned by the late Capt. Scott were Levanter, Kiora, Young Abercorn, Hinemoa, Bouncing Bess, Accurate II., etc. In later years he had retired from the Turf, and disposed of all his horses. At the outbreak of the war he rejoined the Army as Captain in the Army Veterinary Corps.

For some time past his health had been failing, and he died after a lingering illness.'

Re "FEES FOR INSURANCE WORK."

Sir,—I would like to suggest to "Old Obadiah" tha possibly he "does not see the question whole."

An insurable fifteen pound trade or farm horse is probably not frequently met with to-day, and it would be more reasonable to instance that the premium on a fifty pound horse would be increased from £2 10 to £2 15 6 by increasing the veterinary fee from 5/- to half-a-guinea. If it is a "fact that insurance of live stock can only be made profitable to a client or high contracting parties if the cost including professional opinion) is kept down to a very moderate figure," it must be remembered that a factor in keeping down the premium, far greater than the veterinary fee, is the elimination of the animal whose death within the duration of the policy is a certainty

"Old Obadiah's" statement that the examination is "but a general one, etc.," may be interpreted by different examiners to range from a mere observation of the animal to an accurate judgment of soundness, health and value.

It may only take a minute to make the examination at times, but on the other hand the whole business may delay an hour, it being quite on the cards to walk to an otherwise inacessible farm and find no living thing on the premises.

Apart from this, however, a professional opinion is required and ought to be paid for as such. If the examination "does not carry with it the responsibilities of examinations as to soundness"—a very questionable statement I should think, then this is no credit to the profession.

It would be far better for the veterinarian to realise that he is responsible for the due exercise of his professional skill, as I am sure many do, and not merely give a certificate as being half-a-crown's worth, or whatever the fee is. This of itself would reduce the risk to the companies, and consequently reduce the premium if the latter be necessary. Yours truly.

GEO. H. JELBART.

A TROUBLE IN PIGS.

I wonder whether anyone can offer a solution to the following symptoms in pigs:—Almost total loss of appetite, staggering, bloody urine. When the female pigs urinate

they gradually squat until they almost touch the ground.
One sow affected at one place, and sow and six store pigs affected at another. Three miles between the places

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

				Ant	Anthrax		Foot- and-Mouth Disease.		Glanders.†		sitic nge. ‡		Swine Fever.	
Period.				Out- break (a)	Ani- s' mals,	Out- Ani breaks mal	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN. Weel	k end	ded Nov	. 24	10	12			1	1	52	93	8	35	5
Corresponding week in	{	1916 1915 1914		15 10 9	19 10 9	2	97	4	4	23 21	34 45	25 3 10	70 66 103	40 220 576
Total for 47 weeks,	1917			388	442			24	49	2202	4131	477	1985	837
Corresponding period in	{	1916 1915 1914		486 514 650	575 580 711	1 40 24	24 560 124	44 46 90	112 80 271	1394 749 1520	4186 1612 2642	247 177 180	3999 3650 3968	9017 15586 37284

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive. + Counties affected, animals attacked :- Worcester 1 (1) Confirmed. (b) Reported by Local Authorities Board of Agriculture and Fisheries, Nov. 27, 1917 Excluding outbreaks in army horses.

IRELAND. Week ended	Nov. 17								Outbreaks	11	1	7
	1916		,						1	11	5	52
Corresponding Week in	1915	1		1					444	7	4	5
	1914		1	•••			. 2.2 .			4	1	21
Total for 46 weeks, 1917		3	1	5			1	1	41	346	194	1125
	(1916	3		7					59	394	290	1678
Corresponding period in -	1915	2	- 1	2			1	3	65	362	224	1277
	1914	1	1	1	76	957			72	444	181	917

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 19, 1917. * As diseased or Exposed to Infection Note. The figures for the Current Year are approximate only.

British Dairy Farmers' Association.

At the November meeting of the Council, held at 28

Russell Square, W.C.1.:In response to many letters received re The Milk Prices fixed by the Local Committees, the following resolution was passed unanimously, and ordered to be sent to the Food Controller:—"It has come to the notice of the Council that in many cases Local Committees are fixing prices which are totally inadequate, and likely to diminish the supply of milk, and to destroy the dairy industry, and this Council urges the Food Controller to immediately take action to prevent this.

The next Council meeting was fixed for the 5th Dec.,

At the General Meeting, afterwards held-present: Lord Strachie, Vice President, in the Chair; and twenty

members:—
The Chairman proposed that Lord Desborough be elected as President for the year 1918, and the Vice-Presidents be the same as last year. This was seconded by Mr. J. A. Smith, and carried unanimously.
Mr. S. Palgrave Page proposed a vote of thanks to Lord Desborough for his services as President during the year. This was seconded by Mr. J. L. Shirley, and carried unanimously. carried unanimously.

Solution of Soap as Disinfectant.

Yet another method for early treatment of wounds appears in The Lancet of last week. It is contributed by R. Garside Dixon, M.B., CH. B., Leeds, and H. T. Bates, M.B., B.CH. Dublin., Captains R.A.M.C. (T.F.), at a Casualty Clearing Station, B.E.F., France. We give it in full, except the detailed cases, since the method of use is an essential feature. It will be noted that Carrel's irrigational control of the tion method is used in the larger wounds.

"A short time ago Col. Cuthbert Wallace, A.M.S., brought to our notice that some French surgeons were using soap solutions in the treatment of wounds, and suggested that we should try this method.

During the next few months we have used this dressing on 368 cases. During the same period we have treated similar cases with other antiseptics, including eusol, hydrogen peroxide, and B.I.P.P., with the result that we are using more soap, and less of the other antiseptics.

A sample of common yellow soap was analysed and A sample of common yellow soap was analysed and found to contain, per cent.: Water, 24.6; fatty acids, 63.0; combined alkali, 4.6; free alkali, nil; impurities, 7.8. This was considered suitable, and it was found possible to make a 2½ per cent. solution of it.

The first cases tried were small open muscle wounds

in which there was no gas gangrene. After being

opened up, and metal and cloth removed, the wounds were dressed with sterile gauze soaked in this solution. The dressings were left undisturbed for two, three, or four days, provided there was no rise in temperature. At the first dressing the most striking features were less pain, the unusually clean appearance, absence of pus, and the redness of the whole of the tissues—the muscle in particular.

Encouraged by the success in regard to small wounds, we tried the same treatment in larger and deeper wounds, using Carrel's tubes in the ordinary way. Here we found a difficulty with the common soap solution; it was found to be too gelatinous to flow at all well down the tubes. A 2½ per cent. solution of the B.P. soft green soap was then tried, and found to be quite satisfactory.

The results continued to be most encouraging, and compound fractures of the bones of the hands and feet, also the long bones, including the femur, were so treated successfully. Cases of penetrating wounds of the kneejoint were treated by this method, the joints being irrigated, and the capsule and external wounds closed. The cases did very well.

In cases of gas gangene the results were usually good but in one case (buttock) a gelatinous film or glaze was formed over the affected muscles, and the treatment had to be discontinued in favour of hydrogen peroxide.

In the case where a man had similar wounds of both calves, the soap solution with Carrel's tubes was tried on one side, and another antiseptic, also with Carrel's tubes, on the other. Both wounds did well, but the side treated with soap was not dressed as frequently as the other side, and when the patient went to the base his soap-dressed wound looked more like a granulating wound, and more like one that it would be safe to close than the other.

The points claimed for the soap solution dressings are that they clean up a wound quickly, the dressings are much less painful than ordinary dressings, there is a saving of labour as the dressings need only be changed every three or four days, the solution is easily procured, easily made, and cheap."

Alleged negligent shoeing.

In the Shoreditch County Court, on Wednesday, 24th October, before his Honour Judge Cluer and a jury, Geo. Whiting, of 75 Graham Road, Hackney, a Smith-field Market master carman and contractor, sued John Lake, of 11 Brett Road Mansions, Hackney, a master farrier, to recover, £34 10s., damages caused through the alleged negligent shoeing of one of the plaintiff's

It was alleged that the near hind foot was pricked, which set up blood poisoning. The defendant was also negligent in not telling the plaintiff of the pricking, so that he could take steps to counteract the injury. had to pay 12s. 6d. for the horse to be removed by ambulance from the Meat Market; twelve weeks keep at £1 a week; paid a man £2 2s. to look after it; it had depreciated in value £10; veterinary surgeons fees £1 8s. 6d.; and paid to other carmen to carry out

cartage work £8 7s.

In addressing the jury, Mr. Fortune said they would understand that a nail might be driven against the sensitive part without the farrier knowing it. They had to prove that he had been negligent, and that was a very grave charge against a master farrier. Professional men might make mistakes, but if they honestly did things to the best of their ability, they could not be accused of being negligent. If he did it in the best way known, and by accident something went amiss, it would be unfair to cast him in damages, and thus put a slur on his otherwise good character. If he did it in a careless and negligent way, in such a way that no other man in - West Cumberland Times.

his profession would do, then he was entitled to pay for ; but there was no evidence that he had done so in this case. "You cannot give damages for a mistake; only if he has been wilfully negligent," he added.

Judge Cluer: Not wilfully.
Mr. Fortune: No, recklessly and carelessly, without

taking due care.

Judge Cluer said negligence had to be proved, and the plaintiff sought to prove it by saying that when accused of it, the defendant did not deny it. All he got was an intimation from the defendant that he was insured, so that it did not matter. The plaintiff was entitled to infer from that that the defendant was not denying that the hoof had been pricked. It was just a question as to whether they believed the plaintiff or the defendant.

The jury retired, and on returning into Court, gave a verdict for the plaintiff for the full sum sum, less £5 off

the depreciation in value.

Judgment was accordingly entered for the plaintiff for £29 10s. damages, and costs.—The Meat Trades' Journal.

Prices of Feeding Cakes.

At the annual meeting of the Aspatria Agricultural Co-operative Society, on Nov. 21st, in the course of his remarks as Secretary, Mr. Henry Thompson, M.R.C.V.S.,

"The new Order seems to fix the prices regardless of the quality. Although English-made cakes are much superior the foreign-made cakes are fixed at more money. The Ministry of Food have priced foreign linseed cakes at £19 15s. per ton. Assuming that the percentage of oil is 8, and the albuminoids 30—total 38 to arrive at the Government price the oil and albuminoids would have to be valued at 10s. per unit or £19 per ton, the oil and albuminoids being the only two agents named in the Fertilizers Feeding Stuffs Act, 1906. Compare this with the best made English linseed cakes, with oil 13 per cent., albuminoids 40 per cent.-total 43 per cent.—at 10s., or £21 10s. per ton. Again, take the best decorticated cotton cake, showing oil 14 per cent., albuminoids 39 per cent.—total 53 per cent.—at 10s. per unit, equal £25 10s. per ton. Yet the Government price is put at £19 15s., but there are a great variety of decorticated cakes on the markets. Palm nut kernel cake stands with oil 6 per cent. albuminoids 18 per cent. —total 24 per cent., at 10s., equal £12 per ton. The control price is £13 15s. But the most striking things in regard to prices are the compound cakes. They are stated on the list: oil 7 per cent., albuminoids 20 per cent.—total 27 per cent., at 10s., equal to £13 10s. per Yet the Government price is £17 15s. per ton. With this glaring difference one would almost think that some of the compound cake makers were on the committee arranging prices. Another remarkable point is that the small buyer with his cow and pig is made to suffer. If a buyer takes a four ton lot direct he gets it at the same price as the retailer, with carriage added, but the importer or maker has to make the retailer an allowance of 6s. 3d. per ton, which is his working profit.

Now should he buy a two ton lot the price is 5s. per ton more, with extra carriage of about 4s. 6d. per ton, but the small buyer up to 5 cwt. has to pay 2s. per cwt. more than two ton price. To say the least, the sooner there is a revision of these prices the better.

The Chairman, in supporting a vote of thanks to the Secretary, said Mr. Thompson was one of the originators of the society, and had worked hard for it ever since it started. They were the oldest Agricultural Co-operative Society in England, and Mr. Thompson might be called the 'grand old man' of agricultural co-operation.'

The Berwickshire Sheep Dipping-Appeal.

A sitting of the Justiciary Appeal Court heard counsel in two bills of suspension presented on behalf of John Prentice, farmer, Swinton Quarter, Berwickshire, and residing at Tweedsyde, Castle Tee, Berwick, against two convictions and penalties obtained against him before Sheriff-Substitute Macaulay Smith at Duns. The Lord Justice General, Lord Johnston, and Lord Mackenzie occupied the bench at the hearing, which was begun on Saturday, continued on Monday, and further adjourned until Friday afternoon. The complaints were brought by Sydney Hilson, Procurator-Fiscal, and the first charged him with not having dipped, as required by law, 455 sheep on the farm of Swinton Quarter, and 148 sheep on the farm of Sunwich, of which he was the owner; and the second charged him with making a false return to the Chief Constable in respect of the same sheep. In each case he was fined 10s. per sheep, the aggregate amount of the penalty being £603.

Complainer represented that when the complaint was served upon him on 1st October he accepted it as referring to the failure of his shepherd to give notice to the police that the dipping was to take place, as it did, on the 17th and 24th August, and when the case came before the Sheriff on 5th October he pleaded guilty to the charge under that impression. His agent explained to the Sheriff that the sheep had been dipped, although not according to law, seeing that notice had not been given to the police beforehand. He submitted that the sentence was oppressive and unjust, and was pronounced under a complete misapprehension of the facts of the case, and that he had been penalised on the basis that no dipping had taken place at all, whereas they were all

adequately dipped within the statutory period. He also complained that the Sheriff had refused to allow him to make an explanation on the ground that he was represented by an agent.

He pleaded guilty to the second complaint also in so far as he admitted that two inaccuracies occurred in the return he made to the Chief Constable. He gave one date for the dipping of all the sheep, whereas the Sunwich sheep were dipped a week later than the others. That error was committed thoughtlessly and without any criminal or oblique motive. He had also signed his name as having been present when the Swinton Quarter sheep were being dipped, whereas he did not see them till the day following, when he saw that they had been dipped. Complainer contended that in this case a nominal fine or an admonition would have been commensurate with the degree of culpability, and the fine imposed was outrageous. On these grounds he sought suspension of both convictions.

The respondent submitted that the bill of suspension was incompetent and inept in respect that the complainer had not availed himself of the proper mode of remedy for his alleged grievance; that he was now precluded from pleading irrelevancy seeing his agent did not do so in the Sheriff Court; that it was not pretended that the conviction and penalty were in excess of the powers and jurisdiction of the Court or that the penalty exceeded the limits of the statute, and that there was no other competent ground of complaint. On these grounds the bills were sought to be refused.

The Court repelled the objections to the relevancy of the complaint and also that the complainer had not been allowed the seven full days prescribed by the statute for the payment of the fines which had been imposed. [The Court reserved their decision.]

The state of

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

	Ant Out-	hrax Ani-	Foot- and-Mouth Disease.		Glanders† (including Farcy)		Para Mai	sitic nge.	Sheep Scab.	Swine	Fever.
Period.	breaks	mals.	Out- breaks	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks	Ani- mals,	Out- breaks	Out- breaks.	Slaugh tered.
IRELAND Week ended Nov,	з					·	Outb	reaks	9	1	5
Corresponding Week in { 1915 .					:::			 2 1	16 6 5	3 3 6	19 40 13
Total for 44 weeks, 1917 .	3	5			1	1	4	1	332	192	1112
Corresponding period in 1915 .	3 1	7 1 1	 76	957	ïi 	3	6	8 4 1	366 346 434	277 219 178	1599 1252 880

Department of Agriculture and Technical Instruction for Ireland. (Veterinary Branch), Dublin, Nov. 5, 1917

IRELAND. Week ended	Nov. 10							Outbreaks	3	1	6
Corresponding Week in	1916 1915 1914			:::				 1 1	17 9 6	8 1 2	27 16 16
Total for 45 weeks, 1917		3	5			1	1	41	335	193	1118
Corresponding period in	$ \begin{cases} 1916 & \dots \\ 1915 & \dots \\ 1914 & \dots \end{cases} $	3 1 1	7 1 1	 76	957	 1 	 3 	58 65 72	393 355 340	285 220 180	1626 1272 896

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 12, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1535

DECEMBER 8, 1917.

VOL. XXX.

CONCERNING MANGE.

Henry's recent researches upon equine otacariasis, an abstract of which we published three weeks ago, should be borne in mind by veterinary surgeons, especially by those who see much mange or have frequent opportunities of post-mortem observations upon horses. His conclusions may prove to be very important. Substantially they amount to the discovery that a very large proporfrom those which cause psoroptic mange in other parts of the body, in the interior of their ears. Beyond some local irritation, the presence of the psoroptes in the ear seems to cause little trouble; and in itself equine psoroptic otacariasis appears to viously, was now noticed to be ill and showed be of little direct pathological importance. But, similar symptoms. The temperature was 97.4, granting that the psoroptes are identical with those which cause psoroptic mange elsewhere, the bear-ing of the otacariasis upon the dissemination of dirty. It was disinclined to move; when made to mange is obvious. So far as the psoroptic variety do so moved stiffly. When lying it was difficult to of mange is concerned, this discovery may account for many or most of the hitherto inexplicable appearances and recurrences of the disease which so often perplex veterinarians.

tested and compared with others obtained in different localities. Some of this work may be done by practising clinicians, and there are many in England who have opportunities of taking part in it. of Henry's most important conclusions—that relating to the prevalence of this otacariasis—is based upon post-mortem examininations of horses which had died from "various affections." Many English practitioners are often able to carry out similar observations. Of course, it would involve a certain amount of trouble, including some dissection of a region which very few members have examined minutely since their college days, if even then. But, after all, it would be a much less formidable task than the study and identification of bacilli.

This suggests a curious point. How is it that, though the mange parasite can be studied so easily so comparatively little work has been done upon it? It can be actually seen with the naked eye, and can be well studied with a low-power microscope. A great deal of work could be done upon it with simple apparatus, far away from any laboratory; and we all know of questions connected with mange that indicate the need for such work. Yet very little upon the mange parasite has even been attempted, compared with the amount successfully accomplished in the far more difficult study of bacteriology. This is not a satisfactory state of things. Henry has given us a definite point from which to work; and it ought to be followed up.

UNDIAGNOSED.

On the 14th November I was called to a colt which was reported to have been found cast on a rough place in the pasture where digging had been done after rabbits. It had been got to a box and was able to stand, but looked very depressed; the muscles were shaking, membranes dirty and red; fæces which had been passed were very hard, coated with mucus, and of a dark colour. Tempertion of horses harbour psoroptes, indistinguishable ature normal. Pulse weak. Next morning the animal was dead. Before it died the owner noticed

it passing blood-coloured urine. Another colt which had been running with it, and

had appeared alright and lively the evening preurine blood-coloured, bowels constipated, fæces make it get up, but could jump on to its feet with ease when it thought to do so. This animal died on the 17th.

Post-mortem showed no gastritis or enteritis. The It is necessary that Henry's results should be glands of Peyers' patches stood out prominently as small black nodules, about the size of half a horse bean. There was nephritis, and a quantity of dark,

dirty-looking urine was found in the bladder. The two colts had been running in the same pasture all the summer, one side of which were bounded by a small river. One could see that the colts had been grazing on the bank, which was steep. One suspected some vegetable poison, but was unable to discover any poisonous plant.

On the 27th was called to a similar case in a twoyear-old pony mare, but not in the same district. Two days previously, a cart foal had been found down in an over-eaten fog field, and had died the same day. It had not got up after it was found down. It had been noticed to pass blood-coloured urine. The pony I was called to had been found ill in the same field; it had been brought home about three miles, and was very stiff. Temperature 98.4: pulse rapid and very weak; membranes injected and dirty; fæces very dry, dark in colour and glazed; urine a dark coffee colour. The animal would eat its bedding—barley straw—but nothing else. It The animal would eat died on the evening of the 28th.

These four animals all appear to have suffered They had had nothing to eat but grass. The first pair had river water to drink; the others well water. The cause of the illness cannot be attributed to high feeding and want of exercise. The two days before the last pair commenced were

bitterly cold and frosty.

It would be interesting to know if others have had similar cases. One has not had them in this district previously.

Northallerton.

E. H. PRATT.

A TROUBLE IN PIGS.

The symptoms given by "W.W." in your last week's issue are those of uremia. The cause is probably digestive derangement, due to coarse indigestible food, of which there is plenty about at the present time. Cysts of the kidney are rather common in swine, and there may be hundreds of them scattered about in the cortex of the kidney.

Complete change of diet is indicated, and mucilaginous drinks, together with an electuary made up with treacle or honey and boracic acid, 10 to 15 grams three times daily as a dose. A saline purgative such as sodium sulphate or Carlsbad salts is also useful. Of course, these remedies are of no avail where there is grave structural change in the kidneys or bladder; but at the present time, when the offals fed to pigs are by no means what they used to be, the remedies are worth trying. The history of a post-mortem would be interesting.

G. MAYALL, M.R.C.V.S.

In reference to note in the December 1st issue of The Veterinary Record, "A Trouble in Pigs":—it would be interesting to know (1) what the pigs are fed upon; (2) what litter is used; (3) if the pigs are confined to sties or have access to bracken; etc.; (4) the locality or county in which this condition appears.

A. H. B.

ABSTRACTS FROM FOREIGN JOURNALS.

A NEW METHOD OF ACTIVE IMMUNISATION.

M. Frankenhuis has devised a new method of active immunisation which is based upon a slow and continuous absorption of the virus. The virus is collected in a capillary tube, which is introduced under the skin in the most simple manner. According to the author's experimental results, a permanent active immunisation is thus obtained.

This procedure may be attempted as a prophylactic measure against purpura hamorrhagica and foot-and-mouth disease. According to the author it has the advantage of not being dangerous, even if a lethal dose is employed. It gives a more marked and more constant immunity than any of the methods generally used, and immunisation is possible even if pure cultures are not available. Finally, it may be used concurrently with other methods.

The drawback of the introduction of the tube under the skin is very small, if all the necessary aseptic precautions are taken.—(Revista de Higiene y Sanidad Pecuarias).

IODISED BENZOL IN VETERINARY SURGERY.

G. Zanetti, since 1914, has advised the use of iodine dissolved in benzol as an antiseptic in the place of tincture of iodine. The preparation has been used for some time in veterinary practice, where it has given excellent results, especially in fistulous processes, the so-called "summer sores," etc. The following are among the advantages over tincture of iodine which are claimed for the iodobenzol solution.

A high percentage of iodine (9.75%).

Great stability of composition.

An antiseptic power equalling or surpassing that of tincture of iodine.

The greater security of adopting a solvent of a constant type. In the case of alcohol, the solvent power for iodine varies with the grade of alcoholic strength.

The lesser cost of benzol in comparison with alcohol.

It appears that the bactericidal action of iodobenzol is a little superior to that of a 10% solution of iodine.—(*La Clinica Veterinaria*).

THE ITALIAN METHOD OF ANTI-RABIC TREATMENT.

Prof. Claudio Fermi, who is known through his various researches upon rabies, has since 1906 been using and gradually perfecting a method of antirabic vaccination of his own. This consists in treatment with a sero-vaccine, composed of a mixture of two parts of vaccine and one part of antirabic serum.

Fermi's vaccine is constituted by virus fixed by passages through rabbits and the maximum degree of virulence for the rabbit, but rendered avirulent by the addition of 1% of carbolic acid. The virus is obtained from the brain in preference to the spinal cord. The serum is produced by horses which have received a daily injection of 10 c.c. of vaccine for two months, with an interval of fifteen days between the first month and the second. This serum is capable of protecting white mice against the subcutaneous injection of fixed virus.

For anti-rabic treatment, sero-vaccine may be injected for from five to ten days, and vaccine then be used till the twenty-fifth day. Or the sero-vaccine alone may be used during the whole of the treatment.

treatment.

Fermi's vaccine, serum, and sero-vaccine have been proved by numerous comparative tests to be more efficacious both in animals and in man than the vaccines of all other Italian or foreign Institutes. In fact, Pasteur's original vaccine and the vaccines of Orioski, Calmette, Ferrau, Hoegyes, and Protopoff are not completely avirulent when when given subcutaneously. They may produce vaccination-paralysis, and even cause death from rabies. In addition, almost all these vaccines produce local reactions, and in many subjects the injections often appear injurious. The sterility is not assured; and they have sometimes caused abscesses and mortal septicæmias. These methods also give a more or less high percentage of failures,

which is estimated at from 0.77% to 0.41%. Fermi's statistics show no true failures, and 0.1% of ap-

parent failures.

Animal experiments show that the vaccine, serovaccine, and the entire method of Fermi is much more efficacious than the vaccine and the entire method of Pasteur, Calmette, and Babes, in which the so-called fixed virus is weakened by drying. Fermi's method is the only existing one which, being completely avirulent subcutaneously, guarantees in the most absolute manner against causing rabies, paralysis or paresis of vaccination, abscesses, and mortal septicæmias. The vaccine and the serovaccine are absolutely innocuous.

The vaccine and sero-vaccine are preserved in sterile phials. The vaccine remains efficacious for six months, and the sero vaccine for two months. It is therefore possible to carry out anti-rabic treatment a long distance from the Institute, at the home of the bitten person, and very soon after the bite has occurred. Any medical man is able to apply the treatment, and the advantages of this to the person to be treated are obvious.—(La Clinica

Veterinaria).

W. R. C.

Royal College of Veterinary Surgeons.

FELLOWSHIP EXAMINATION.

A meeting of the Board of Examiners for the Fellowship Degree was held at the College, 10 Red Lion Square, W.C., on Saturday, December 1st. The following candidate was successful :-

Hedley Charles Davys Golledge.
Title of Thesis: "Swine Fever."

The Examiners were Mr. W. H. Bloye and Mr. J. Malcolm; Mr. Mulvey, Chairman.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917 :-

B. R. Body, Lieut. A.v.c.	£1	0	0
R. L. Cranford, LtCol. A.V.C.	1	0	0
J. Gibson, Dundee	1	1	0
A. Lennox, Crowland, Lincs.	1	1	0
Previously acknowledged	921	4	0

£925 6 0

FAILING TO DIP.—In the Inverness Sheriff Court Alexander Chisholm, Strathglass, pleaded guilty to failing to dip 100 sheep within the first dipping period. The Fiscal said accused had been given time, but notwithstanding he failed to dip the sheep. An agent said there were no fences round the holding, and the sheep strayed into the deer forests on both sides to such an extent that they had frequently to be gathered 17 miles away. Sheriff Grant imposed a fine of 5s. for each sheep, making the total £25.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—SOUTHERN BRANCH.]

The quarterly meeting was held at the Grand Hotel, Birmingham, on Thursday, Nov. 15. The President, Mr. J. Malcolm, Birmingham, occupied the Chair; and there were also present: Messrs. J. J. Burchnall, Barthere were also present: Messrs. J. J. Burchnall, Barrow-on-Soar; W. E. Ison, Atherstone; J. Martin, Wellington; H. L. Pemberton, Bridgnorth; H. S. Reynolds, Daventry; L. C. Tipper, J. Young, E. O'Neill, S. M. Woodward, Birmingham; R. Murray, Rugeley; J. O. Powley, Sutton Coldfield; T. Chambers, Dudley; W. H. Brooke, Handsworth; A. Renfrew, Broadway, Worcester; J. W. Conchie, Kidderminster; H. A. Turner, Derby; and the Hon. Sec., Mr. H. J. Dawes, West Bromwich. Bromwich.

Apologies for absence were announced from Profs. Macqueen, and J. U. Dewar; Dr. Gilbert Barling, and Messrs. F. L. Gooch, R. C. Trigger, W. L. Gascoyne, R. B. Palmer, J. Martin, jun., J. R. Carless, F. B. O. Taylor, F. W. Barling, J. Bainbridge, J. T. Brain, J. C. DeVille, W. W. Grasby, W. S. Carless, S. J. Marriott, H. Stevens, E. Ringer, R. L. Phillips, R. Cockburn, H. B. Hiles, and others

H. B. Hiles, and others.

The minutes of last meeting, taken as read, were con-

A letter from Mr. J. T. Allen, formerly of Burslem and now of Tunstall, was read, stating that owing to his inability to attend the meetings regularly, he desired to be relieved of his membership of the Association.

Being an old and respected member, it was resolved, on the motion of Tipper, seconded by the President, not to accept his resignation until Mr. R. C. Trigger, as a neighbour, had endeavoured to persuade Mr. Allen to reconsider the matter.

THE LATE MR. JOHN BLAKEWAY.

The Hon. Sec. said it was his melancholy duty to refer to the death of one of their oldest and best respected members in the person of Mr. John Blakeway, of Bluntingdon, and formerly of Birmingham. Probably no one knew Mr. Blakeway more intimately than he did, and certainly no one outside the family felt his loss more keenly. They entered College together, passed their examinations together, received their diplomas the same day, practised near each other, joined this Associa-tion the same day in 1887, and held office together for a number of years, and were also members of the Board of Examiners of R.C.V.S. They were married about the same time, and each had three children, and, to carry the connection still further, they were somewhat alike in personal appearance. Indeed, on the day of Mr. Blakeway's funeral, a railway official came up to him (Mr. Dawes) and said, "How are you, Mr. Blakeway?" and it was as much as he could do to convince him that Mr. Blakeway was dead. He had been looking over the old minute books, and noticed that of the members present when he and Mr. Blakeway were elected members of the Association only four survived, namely, Messrs. A. Over, J. Malcolm, T. Chambers, and R. C. Trigger, whilst of a number who sent apologies, the only one alive to-day was Mr. Barling, of Ross.

They all knew what the Blakeways had done for the

Association. Both father and son had held the office of President, and when the father resigned the Treasurership after many years of service, the son stepped in the breach, and events proved that they could not have had a better successor. Their late friend was beloved by all, both in and out of the profession. He moved that a letter of sympathy be sent in the name of the

Association to the widow and family.

The President, in seconding, said that as an old friend of the family he influenced Mr. Blakeway in his decision to start in practice in Birmingham, and they all knew what a first rate practice he built up. No finer judge of a horse ever lived, and the Government were well advised when they sent Mr. Blakeway to Canada to purchase horses for the army. This Association, like the profession generally, would be much poorer by death.

Mr. Brooke and Mr. Chambers, who had both been brought into close touch with the late Mr. Blakeway, supported the resolution, which was carried.

THE LATE MAJOR J. W. COE.

The Hon. Sec. said that was not their only serious loss. They had also to deplore the death of their old friend, Major J. W. Coe, of Stoke. He, too, was a past President of the Association, and one who had attended the meetings regularly for many years. His (the speaker's) son joined the army at the request of Major Coe and was under him, and every one, officers and men alike, spoke of him in terms of the warmest affection. Major Coe came by his end in sad and tragic circumstances, breaking his neck in a fall from a horse. It is distressing to to think that one of the best riders in the country should have died in such a manner. Their hearts must go out to Mrs. Coe and her little son. She had managed the practice since the outbreak of war, with the help of Messrs. R C. & W. Trigger and Mr. Tart. He moved a vote of condolence with the family in their deep bereavement.

Mr. Brooke said that, as one who was at college with Major Coe and who joined this Association at the same time, he should like to have the privilege of seconding.

Mr. Burghnall, in seconding, said that men like Mr. Blakeway and Major Coe, by their uprightness and gentlemanly conduct, had uplifted the profession to an extent which made everyone their debtors. The motion was carried.

MRS. GOOCH OF STAMFORD.

The President also moved that the sympathy of the Association be extended to Mr. F. L. Gooch, of Stamford, on the death of his wife.

Mr. TIPPER, in seconding, said many of them had met Mrs. Gooch at meeting of the National, and they recognised in her a very pleasant companion. This was also

THE LATE MR. W. C. BARLING.

On the further motion of the President, seconded by the Hon. Sec., a vote of sympathy was passed with the family of the late Mr. W. C. Barling of Newnham, once a member of the Association, who only resigned when he went to live too far away to attend the meetings.

Mr. R. C. TRIGGER also wrote saying he should like to be associated with the above expressions of sympathy.

THE MAYOR OF DUDLEY.

The Hon. Sec. said it was a pleasure to turn from the melancholy to something a little more joyous. One of their oldest members, whom he was pleased to see present that day, had just been elected Mayor of the important town of Dudley. He referred to Mr. T. Chambers, whose long public service had been recognised by the Corporation conferring upon him the highest honour in their gift. Mr. Chambers was already an alderman and a justice of the peace, and this higher distinction was one which reflected no small amount of credit on the veterinary profession generally. He moved that the congratulations of the Association by offered to animals from rising. Mr. Chambers and that his civic appointment be recorded upon the minutes.

Mr. TIPPER seconded, and mentioned that he and Mr. Chambers received their diplomas the same day at college. He had since watched the progress of Mr. through the diaphragm into the pericardium, but there

Chambers, both professionally and socially, with very great interest.

The President said he desired to associate himself with the motion. He first came to these meetings through the influence of Mr. Chambers, who was Secretary of this Association more than 30 years ago.

The motion having been cordially passed, Mr. Chambers responded, and said he was so busy in his practice that it was only from a sense of patriotism, which prompted him to do all he could for the country at the present moment, that he accepted the mayoralty this year. He was glad to think it was an honour which the profession shared with him to some extent.

HORSE OWNERS' AMBULANCE FUND.

Mr. Martin moved the following resolution arising out of a short discussion at the previous meeting:-"That a sum of five guineas be given to the Birmingham Horse and Vehicle Owners' Association Fund for providing a motor ambulance for use at the Front." Considering how much they, as practitioners, owed to horse owners, it was to their interest to help in a matter of this kind. Apart, however, from any selfish reasons, the object itself was one which merited their whole-hearted

sympathy and support.

The Hon. Sec seconded. He said he had made enquiries and had satisfied himself that the Association He said he had made

was doing a great deal of good in many ways. Mr. BURCHNALL supported the motion, which was

carried unanimously.

Mr. TIPPER said that, as President of that Association, he desired to thank the meeting for their contribution. It required at least £650 to purchase one motor ambulance and maintain it for a year, which was the smallest result they had in view. If any members of this Association cared to make an individual donation, he could assure them that it was a worthy cause, either in a professional or a national sense.

REPORT OF THE COUNCIL.

The Hon. SEc. reported that a meeting of the Council of the Association was held immediately prior to the present gathering, Mr. Malcolm presiding, when it was recommended that Prof. Macqueen be invited to attend the next meeting and deliver an address upon such subject as he cared to choose. It was also recommended that the next meeting, being the annual one, should be

held in Birmingham, as usual.
On the motion of Mr. Renfrew, seconded by Mr. O'Neill, the report of the Council was adopted.

FOREIGN BODIES IN CATTLE.

Mr. REYNOLDS mentioned an unusual case of what he believed to be loss of power in hind quarters of cattle. He was called to see a bull belonging to a small society that was aided by the Board of Agriculture. It was all right the previous night, but now unable to rise. He could find nothing the matter with the animal, temperature, respiration, pulse and bowel action were all normal. This went on for some considerable time, and eventually the beast was slaughtered, and a piece of wire was found in the stomach.

He had met with a precisely similar condition in a heifer, which was also found to have swallowed some wire. The wire was in the abdominal cavity. Of course, all practitioners were familiar with cases of foreign bodies in cattle, but certain well known symptoms were visible, which were entirely absent in these two cases. Yet loss of power in the hind quarters prevented the

Mr. CHAMBERS said he had had great experience with foreign bodies in the stomach of cows. He was not inclined to associate the loss of power with the wire. In there was the familiar mushroom-like growth.

Mr. Ison said he had once a case of a cow that would not or could not get up after milk fever. He stepped on

her foot accidentally and she got up at once.

Mr. Renfrew said he made a post-mortem examination this week on a cow that died from milk fever. She could not or would not turn herself. The attendants turned her, and a slight swelling was noticed in the thigh. The swelling got worse and the cow was destroyed. He found all the muscles of the thigh degenerated and nearly black. The part was gritty as though it might be tuberculosis.

He got dozens of cases of wire, and he could not associate Mr. Reynolds' bull and heifer with wire trouble.
Mr. Murray was inclined to think there was some

connection between the wire and the paralysis, because he believed there was a certain amount of sympathy between the stomach and the spinal cord.

Mr. Martin held the contrary view. He did not think wire had anything to do with the loss of power in the animals referred to by Mr. Reynolds. He himself once held a post-mortem and found two pieces of wire, one of which had been in the tissues probably a year.

TETANUS IN HORSES.

Mr. Chambers said he dealt with a peculiar case last week. He was sent for to attend a pony which had fallen on the road. When he arrived the pony was up, with the bridle off but the bit fast in its teeth. It had got acute tetanus, one of the worst cases he had ever seen. The owner told him it had eaten no supper and no breakfast. To his (Mr. Chamber's) surprise the owner walked the pony into his yard half an hour later, but it was breathing very quickly and was very bad indeed. He put the pony into a loose box and injected some serum. The next day, he visited the pony, which had got the bit out of its mouth and was looking for something to eat. It made a quick recovery. Altogether, he had never met with such a case in his life.

Mr. Pemberton described two cases of tetanus in yearling foals. One had a small rupture which had been stitched by an ordinary castrator who went round. That foal was doing well. The other foal showed no sign of a wound, but it was a severe case of tetanus, and death ensued the following day. He wondered whether certain districts became infected with the

tetanus bacillus.

Mr. O'NEILL seriously doubted whether the case mentioned by Mr. Chambers was tetanus.

Mr. CHAMBERS: It was. It had every symptom.
Mr. O'NEIL said if it was really tetanus, it would not get right again in three days. Although the symptoms may have suggested tetanus, he thought the cause was something else. He remembered a horse with broken knees developing tetanus. He put the animal into a dark box, and dosed it with belladonna, after trying bromide of potash. He must have administered an overdose of belladonna, because belladonna poisoning set in. Next day it looked like a case for the knacker. the four limbs being as stiff as props and the stableman had to hold the animal. They managed to get it on its legs and it never looked back. It worked for two or three years afterwards and was then sold for a good

Mr. TRIGGER suggested that the case mentioned by Mr. Chambers might have been a case of strychnine poisoning. He had seen symptoms in dogs which were not unlike tetanus, but which he knew to be due to

strychnine.
Mr. Martin said if he could keep a case of tetanus alive for ten or eleven days, the patient usually recovered, though it might become a roarer.

was no paralysis. The wire was in the heart, on which its neck and leg were twisted round some ribbon, and on cutting this the animal was at once all right.

The Hon. SEC said he had seen it recommended that horses with tetanus should be turned out and left in the open, but he could scarcely conceive that such treatment would be satisfactory. Serum, he thought, was not much good if the trouble had developed to any

Mr. REYNOLDS said he had long come to the conclusion that no medicinal agent or serum was much good in cases of tetanus. He agreed, however, that it was useful as a preventive after a wound. With regard to turning out animals with tetanus, he also had seen it mentioned in *The Record*, but like Mr. Dawes he had no faith in it. Still, he felt bound to mention a case of a foal running with its mother. The foal developed tetanus, and it had to be left out as a matter of convenience. Later on, the owner told him that the foal was better, though it took six weeks to make a complete recovery, which he generally found was the usual run of the disease.

The Hon. Sec. said he knew of a veterinary surgeon who in cases of bad wounds always gave a dose of serum

as a preventive against tetanus.

Mr. RENFREW said he got a lot of cases of tetanus in foals, which were suckling. He failed to see what object there could be in turning an animal out that could not there could be in turning an animal out that could not stand. Cases of slow development, in his experience, generally recovered. The only chance for an animal with acute tetanus, in his opinion, was to sling it at once, to prevent it going down. For many years he had held the belief that cases of slow development and the acute cases were not the same thing. When he met cases with no evidence of a wound, he predicted that the patient would die which it generally did. He agreed patient would die, which it generally did. He agreed that with favourable cases the period of the disease was about six weeks.

Mr. Young said he had been successful in the serum

treatment of tetanus.

Mr. O'NEILL thought there was no certain cure for tetanus. All they could do was to nurse the patient carefully. He found that semi-acute cases would recover with ordinary care, but that acute cases would not.

TUBERCULOSIS IN HORSES.

Mr. O'NEILL referred to a curious case which had recently come under his notice, A six year-old cart horse was described to him as a doubtful worker. He saw it in July, and as it had run down in condition he turned it out to grass. He saw the animal again several times, but there was no improvement. In the middle of October, he saw the horse again, when the pulse was 60 and there was no temperature. The animal was sent to Hockley and put in a loose box, but it kept wasting away. The temperature rose to 102 or 103, and the pulse went up to 70 or 80. Then it began to develop what looked like skin disease, which he attributed rather to debility than to eczema. The horse died a few days ago, and at the post mortem he found the large bowel adhering to the abdominal wall with a certain amount of what seemed to be acute inflammation, part having become gangrenous. He could find no trace of injury, although, of course, there must have been an injury of some sort. He could have sworn, before death, that it was a case of tuberculosis, because all the symptoms pointed to it.

Mr. MARTIN said at one time he had made a postmortem and found the large colon turned over and become attached to itself, but there were not the same

symptoms as Mr. O'Neill had described.

The Hon. Sec. mentioned another curious case. Two years ago, a client of his turned a roan cart horse out in a field to give it a rest. Three months later he noticed that the animal had got a peculiar condition of the skin. Mr. Pemberton said a client once brought him a cat that the animal had got a peculiar condition of the skin. which had all the symptoms of tetanus. He found that When he (Mr. Dawes) saw it, there were about 200

places about the body in which the hair had come off and a large black swelling come. When one of the places was opened, it was found to be full of pus. The owner was out with the horse at work on one occasion when the police sropped him and the horse was taken to Mr. Woodward's. The latter said he had never seen a horse with such a skin in his life. Mr Brooke also knew the horse. The other day it was slaughtered, and the post mortem showed tuberculosis. There was a tuberculous gland near one of the kidneys the size of a cocoanut. The lungs also were tuberculous.

Mr. WOODWARD, supplementing what the previous speaker had said, remarked that the horse was one mass of eruptions, and he could not diagnose the disease at

the time.

Mr. O'NEILL said he had what was evidently a similar case eight or nine years ago, but though the horse was slaughtered, there was no post-mortem.

Animals struck by lightning.

Mr. Brooke said he was asked this summer by an insurance company to certify whether a horse had been killed by lightning. There was no mistake about it, as the singeing was very clear. He had never seen singeing before, but in this case it began above the left shoulder, ran down the leg in a peculiar "forked" manner, and finished near the foot, where the electricity evidently earthed. The line of singeing showed clearly on the surface as though a hot iron had been run lightly over it, but the skin was not injured.

Mr. MARTIN thought there was scope in the subject for Mr. Brooke to give them a paper at some future

meeting on deaths in the field from lightning.

Mr. Burchnall said a method of detecting singeing in cases of death from lightning was to look about the neck. The first mark was generally not far away from the root of the horn, which seemed to protrude and to attract the lightning. "If you lay the skin back," added Mr. Burchnall, "you will find a red mark underneath the line of singeing."

The Hon. Sec. said those who read The Veterinary News would have seen some articles by Mr. Reeks, who drew attention to the mistakes of people who attributed

death to lightning when it was not.

MISCELLANEOUS EXPERIENCES

Mr. REYNOLDS said he came across a unique case this week. They would have heard of polypus in the vagina of a cow. He was asked to remove the feetal membrane of a heifer which had calved four days before. He thought the membranes were hanging, but on closer examination he found them attached to a fold of mucous membrane. The marvellous thing was that she should have calved safely. All he had to do was to take the membranes and throw them away.

Mr. Renfrew mentioned a case of a horse which ran against an old-fashioned plough handle, which penetrated the chest for a considerable distance. The wound healed and the horse was turned out, but it became stiff. Then it could not graze, though it could eat at the manger. It could not trot, so he tried whether it could gallop. The horse fell, turned a summersault, got up, and was at once all right. The fall had separated the attachments which had formed as a result of the acci-

dent. The horse worked well for years afterwards.

Mr. Conchie mentioned a case of a sow which, nine weeks after farrowing, was weaning the young pigs. He found two dead pigs left in the sow, one between the skin and the abdominal muscles, and the other between

the abdominal muscles and the uterus.

SPECIMENS.

Mr. Reynolds produced the fractured dentata of a ram which had got into a field where there was another proceed to Belgachia for training; as a result, 17 boys ram, and was found dead.

Mr. Young exhibited the fractured foot of a horse. While coming out of the yard a motor wheel ran over it and forced ossified cartilage close to the os pedis out of the hoof.

Mr. Young also showed a remarkable case of the third molar of a horse. At first there was a slight bulge of the face, then the face swelled to an enormous size. He chloroformed the horse, punched the tooth out, cleared away about a quart of liquid, gave a daily wash of cold water, and dressed with a solution of chinosol. A good cure resulted.

Another post-mortem specimen which Mr. Young showed was a peculiar case of dislocation of the elbow

of a dog.

Mr. Brooke produced the broken cervical vertebræ of a cart horse that died. The surprising part of the case was the lightness of the symptoms compared with the post-mortem condition.

Mr. Conchie produced a curious post-mortem specimen of a diseased hip in a horse; and the tuberculous

organs of a pig.

Mr. WOODWARD showed part of the spinal column of a horse, the whole of which was badly tuberculous.

Mr. Woodward also showed the heart of a dog with well marked valvular disease. The animal—a collie was kicked in the ribs by a man whilst fighting with another dog. It died almost immediately, and the owner claimed damages from the man who had kicked It died almost immediately, and the it. However, there was no apparent injury to the ribs, and the cause of death was heart trouble.

VOTES OF THANKS.

On the motion of Mr. Burchnall, seconded by Mr. Renfrew, a vote of thanks was accorded to those members who had brought post-mortem specimens and

The members had tea together before dispersing.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

ANNUAL REPORT OF THE CIVIL VETERINARY DEPART-MENT, BIHAR AND ORISSA, FOR THE YEAR 1916-17. By D. Quinlan, Superintendent. [Abridged].

I held charge of the Department throughout the period covered by the present report. More attention was given to inspection of the field work of the Veterinary Assistants than in any previous year, lengthy periods being spent in supervising the outbreaks of cattle disease in Gaya, Darbhangar and Shahabad districts. An outbreak of glanders at Hazaribagh took up the greater part of November; during December, the bulls distributed in Champaran district to the planters from the Bettiah Cattle Farm, were inspected, and while on ordinary inspection duty, visits were paid to the cattle farms at Sepaya and Pusa. Permission was given me to go to the Allahabad Dairy Farm in August I attended Barahpur Fair in April, and acted as an examiner at the Annual Examinations of the Benga Veterinary College, and of the Agricultural College Sabour, during March. At the request of the Principal of the Police Training School Heavileagh a leastness of the Principal of the Police Training School, Hazaribagh, a lecture on contagious cattle diseases and the method of reporting them was given to the candidates for Sub-Inspectorships; it is his intention that these lectures should form part of the ordinary curriculum and be continued each year for the future. No tours could be made in the Orissa Division, or in Ranchi District. Altogether I spent 285 days away from head-quarters, travelling 9355 miles by rail and 3151 miles by road.

Veterinary instruction. As in the previous year, the attention of the local bodies was drawn to the necessity

admitted, of whom 11 were Hindus and 6 Muhammadans. Fifteen were stipend-holders and two were private students. The Bettias Estate gave one scholarship of Rs. 20 to a Muhammadan boy from the Estate. The general educational qualifications of the candidates were about the same as last year, most of them having read up to the matriculation standard; two only could produce a certificate of having passed. The standard of education was exemplified in the number of passes at the annual examinations, as out 21 (including four plucked students of the previous year), who appeared

at the first examination, only 14 were successful.

Treatment of disease. Rinderpest was more prevalent, and under present conditions is, practically speak-

ing, uncontrollable.

4513 outbreaks of all contagious diseases were brought to the notice of the staff-an increase of 986 as compared with 1915-16. In only 1850 cases could help be given as compared with 1631 in the previous year, which is satisfactory, when it is considered that there was only a small increase in the number of Assistants employed, and that in many instances it was found necessary to draft them to distant districts for considerable periods, leaving less severe outbreaks in their own jurisdictions unattended; many of them had also to be given leave, which increased the size of the areas supervised by their locum tenens who were mostly Veterinary Assistants employed in other subdivisions of the same

The total number of animals reported to have been attacked by, and to have died during the year from, all

diseases was 81,350 and 26,107, respectively.

Attention has been given to the question of getting members of the Co-operative Societies to help in outbreaks, but there is still much spade work to be done as Hindu influence in many districts is still lined up against the efforts of the Registrar, Co-operative Societies, and this Department. In Gaya opposition was so active that riots occurred; and an Inspector and a Veterinary Assistant were assaulted and the inoculating staff had in consequence to be withdrawn. The guilty parties were prosecuted and punished. It was a matter of satisfaction to find that Brahmin in the eastern part of the Samastipur Subdivision, near the Monghyr-Bhagalpur border, accepted inoculation without objection, and appeared surprised and pleased that Government should have established a department to deal with disease among their cattle. This is a very backward part of the district and had never before been visited by the staff, and only rarely by other Government officials, except the Police. The names of Indian gentlemen who helped the department, and influenced villagers to accept innoculations in some of the bad The Veterinary Assistants attended 914 out of this outbreaks, were brought to the notice of the District officers.

Equines. Glanders.—Two outbreaks. In Hazaribagh 19 cases, including those reacting to the mallein test were found and were suitably dealt with. The in-contact

animals were isolated.

In Angul, Orissa, among pack ponies from the Native State Dhenkanal. One was destroyed after test with mallein and one succumbed, showing clinical manifestations of the disease; four others are reported to have died, but they are not shown in the statement as they were not seen by any of the staff.

Surra.—Fifteen deaths were reported from Singh-bhum. The disease was confirmed by microscopical

examination.

Other contagious diseases.—No details are available which caused the mortality (16) recorded under this head.

Bovines. Rinderpest.—All districts of the Province sent in reports of this disease during the year. The disease appears to have been introduced int Darbhanga nosed microscopically in two cases. and Muzaffarpur by cattle from the District coming in

contact in the grazing grounds with animals brought from Gaya and Patna, where there had been severe outbreaks some time earlier in the year. Enquiries made in Samastipur pointed to considerable mortality in these grazing areas, but it was impossible to get much information on this point from the goalas, as they were very reticent and truculent. Attempts made to immunise their cattle were complete failures, and they threatened to remove their stock if persisted in. The District Magistrate, Monghyr, and the Vice-Chairman, District Board, Rai Bahadur Lachmi Prachad, took considerable trouble in these outbreaks, but their efforts met with no better success. In Shahabad, it appears to have been spread by the animals sent for grazing to the hills in the south of the District bringing it back with them to the villages on their return, and also by the droves passing through from districts of the United Provinces which border it on the west and north.

Though prevalent in Sasaram during the previous cold weather, its first appearance in Buxar Subdivision was in July, in a few villages in the southern thanas. Some inoculations were carried out by the Veterinary Assistant with difficulty, but it failed to cross the East Indian Railway main line to the diara owing, in my opinion, to the complete isolation of most of the villages by the floods, which interfered with the movement of the cattle during the rains. With the aid of the In-spector and Veterinary Assistants, who were brought in to assist the local staff, statistics of mortality were collected in 273 villages, and it was found that 6810 deaths occurred out of 9492 affected. The high mortality was, I think, due to the bad conditions under which the cattle had to remain during the long period when the country was under water, which was practically during the greater part of July, and the whole of August, September and October; the death rate appears to have been highest after the floods. In Purnea a large number of deaths took place principally along the north bank of the Ganges, and in the southern thanas of the Sada Subdivision. In consequence of the absence of roads in this district, many outbreaks had to remain unattended. Similar remarks apply to Shahabad, and the south-eastern parts of Darbhanga where touring can be done, only with the help of elephants in the rains, or in the cold weather. In Hazaribagh the disease caused a large number of deaths in the neighbourhood of Hazaribagh town. The cattle of the Reformatory Hazaribagh town. The cattle of the Reformatory School were inoculated, but 10 deaths occurred out of 25 attacks owing to insufficient doses having been employed.

The number of deaths reported from all districts is 19,144 out of 33,970 animals affected in 1829 outbreaks. number, and could not give assistance at others for reasons already noted. The suppression of information regarding outbreaks continued as in previous years, and it is with the greatest difficulty that chaukidars can be got to help, owing to the pressure brought to bear on

them by villagers.

Foot-and-mouth disease.-1748 outbreaks were reported, out of which 530 were attended. The number of affected animals was 39,740; and only 838 are reported to have died. This disease is unimportant, and does not of itself, usually, cause very great mortality, unless complications set in.

Hamorrhagic Septicamia.—5584 deaths are recorded out of 7330 animals attacked, as compared with 4016 deaths in 1915-16. Eight hundred and ninety-six outbreaks were brought to the notice of the staff, and of these only 406 could be attended. It was diagnosed microscopically in ten instances.

Black-quarter.—In six districts 166 cattle were affected in 12 outbreaks. There were 164 deaths. It was diag-

Anthrax.—120 deaths out of 144 animals attacked

were reported from nine districts. The disease was confirmed microscopically on five occasions. All outbreaks, 28 in number, were attended by the Veterinary Assistants.

Other contagious diseases.—205 deaths are recorded, but no details are available.

INOCULATION.

A considerable increase in the number of animals immunised against contagious disease must be reported during the past year, these satisfactory results being due to the energy of veterinary inspectors and assistants in dealing with outbreaks, and to the help which district officials, and many of the leading zemindars, and important cultivators were able to give when any of their villages were affected. With the exception of one or two instances, it is regrettable to have to state that some of the landholders in Patna and Gaya were passively opposed to the introduction of inoculation in many of their villages. On the other hand, those who have had experience of the assistance which the sera and vaccines conferred on their cattle in helping them to withstand disease were very gratified, and in many in-stances, they again asked for the help of the staff when they reappeared. The total number of cattle immunized during the year was 118,788—an increase of 20,644 over 1915-16. 89,118 inoculations represent the work of the departmental staff, 29,670 shows the number of cattle immunized by the Ranchi Inoculators. Although the increase is satisfactory and reflects considerable credit on the inspectors and assistants in spite of the bad weather conditions which prevailed during the greater part of the year rendering movement in the mufassal very difficult, greater numbers could have been done if the reserve staff mentioned in last year's report had been available. These men are urgently required and within a few years, it is hoped that the vacancies will be filled from the large number of students who are now under training at the Bengal Veterinary College.

Ample opportunities of observing the effect of inoculations with the various sera and vaccines were available in the outbreaks into which I made enquiries, and the results were most satisfactory. In two outbreaks, however, in Hazaribagh and Balasore, the results were not as good as they might have been through the carelessness of the veterinary assistants in not carrying out instructions and making proper enquiries into the viruleuce of the disease and the susceptibility of the breeds affected. Insufficient doses were used, and consequently many more animals died than should have been the case had proper quantities been injected. The increased number of outbreaks and the necessity of having proper enquiries made into the work of the assistants in the mufassal is becoming more apparent each year, and the appointment of additional superintendents as soon as they become available is a matter of urgent necessity; there is ample work in each division for one such officer.

To help in checking the expenditure of sera and vaccines by veterinary assistants, district boards were asked to depute some of their members to make enquiries in the villages; in the few instances where this suggestion was carried out, the results were reported to be satisfactory. Greater use will be made of this agency in the future, as by this means it may be possible to get the work done by the staff, in combatting contagious diseases, better known.

Rinderpest.-Inoculations against rinderpest have been carried out in all districts except Champaran and Angul. 75,405 cattle were immunized, out of which 8,982 were done by the inoculators in Ranchi and 66,423 by the inspectors and assistants. This represents a total

previous year when fewer inoculations had been done. This represents a death-rate of only 0.4 per cent which is satisfactory.

Hamorrhagic Septicamia. Inoculations performed under this head include 20,688 cattle protected by the inoculators in Ranchi; the remainder, 20,726, were immunised by the Veterinary Assistants with both serum and vaccine—an increase of 13,218. There were 64 deaths among the inoculated cattle.

Black-quarter. Only a few outbreaks were brought to the notice of the assistants, and only 210 could be inoculated. No casualties are reported to have occurred

after the operation.

Anthrax. Although inoculations were carried out in nine districts, only 1759 animals were protected. Two deaths occurred among these animals.

SUPPLY OF SERUM AND VACCINE.

Owing to the widespread outbreaks of cattle disease, which occurred during the year under report, the office has had to deal with the large amount 202,500 doses of anti-rinderpest serum (valued at Rs. 25,312-8-0); in addition, 12,900 doses of hemorrhagic septieæmia vaccine, 26,000 doses of hæmorrhagic septicæmia serum, 35,000 doses of anthrax serum, and 6500 doses of Blackleg pillules, or a total of 251,400 doses were received from the Mnkhtesar Laboratory for the use of the staff.

The shoeing forges are giving satisfaction, and in most cases show profits. Several applications were received for nalbunds, but owing to the number required by the military authorities, the vacancies could not be filled.

SUBORDINATE STAFF.

No increase in the number of inspectors took place. Babu B. L. Sur, Sirdar Sucha Singh and R. K. Ram performed their duties in suppressing outbreaks of cattle disease in their circles in a most satisfactory manner. Babu S. C. Bose worked satisfactorily in his circle. He was deputed to Singhbhum during the months of May and June to make enquiries into the hide trade in that district. The report submitted by him was an interesting one and his work was commended by the Deputy Commissioner. Babus S. N. Chattarje and D. N. Sarkar performed their duties in a fairly satisfactory manner.

The reserve veterinary assistants, Babu P. Panda and

D. C. Guha, were in charge of the inoculators in Ranchi.

must be commended for their works.

The number of veterinary assistants was increased by the employment of six new graduates of the Bengal Veterinary College. One assistant died, two resigned, and another was transferred to the United Provinces. The total number at the end of the year was 70.

No material increase in the number of the staff employed can be shown. Fifty-one Itinerant V. Assistants were on the roll on the 1st of April, six new graduates joined, bringing the total up to 57. Two Assistants, Babu G. B. Mitter and Maulavi A. Halim resigned; Amirullah Khan, who came from the Punjab, had his services transferred to the C.V.D., United Provinces, and Babu K. C. Chatterjee joined the Military Department on the 1st October. Thus the number at the end of the year was 53 only, excluding the two Reserve Veterinary Assistants, who were employed in Ranchi as Inspectors of lnoculators. Owing to the prevalence of outbreaks, it was impossible to send any of them for training to Muktesar or to dairy farms.

The following Assistants worked satisfactorily:—Babu B. L. Maitra, Maulavi E. H. Khan, Babu R. N. Pandit, T. Singh, P. C. Das, M. P. Pillai, Maulavi Mohammad Quasim, Babu S. C. Ray, S. C. Prashad, and Maulavi S. I. H. Akbari.

increase of 19,866 over the figures for 1915-1916. The total number of animals which died after inoculation amounts to 288 only, as compared with 484 of the work. The V. Assistant of Samastipur, Babu C. P.

Singh, was suspended for failing to attend villages affected with rinderpest, and to carry out inoculations during the outbreak in Darbhanga. trouble when on deputation to Nawada. He also gave

There has been no change in the number of Veterinary Hospitals. The Veterinary Assistant posted to Dumraon was transferred for unsatisfactory work, and his successor, A. Halim, a Lahore graduate, who was taken into the Department in Aug., 1915, also caused trouble, and left his post when deputed for inoculation duty to Sasaram. Since then the hospital has remained closed, and no returns have been submitted in consequence.

None of the suggested improvements to hospitals, nor the new buildings at Muzaffarpur, have been completed

during the year owing to lack of funds.

28,180 animals were attended at the hospitals as com-

pared with 26,213 in 1915-16.

The following V. Assistants have given satisfaction in their work:—Babu N. Chattarji, M. Agnihotri, N. N. Ghose, J. L. Bose, G. N. Mazumdar, P. C. Bhattacharji, J. N. Mukharji, and D. N. Mukharji.

I regret to have to announce the death of one of the Senior Veterinary Assistants, Babu C. L. Ganguli, who was in charge of the Bankipur Hospital. He was well spoken of by both the European and Indian clients of

the hospital.

Breeding operations - Particulars are given of the work at the stud farms at Bettiah and Sepaya; and it is added that: (Bettiah) "Although 9 bulls and 5 buffalo-bulls were distributed during the year, there still appears to be great reluctance on the part of cultivators to take them over to improve their herds of desi cattle, and were it not for the factories, very few could have been distributed at all; with buffalo-bulls, on the other hand, there is very little difficulty in finding persons willing to take them, and many more than were available could have been sent out. They are proving a great boon owing to the increased supply of milk given by the crosses and to the greater prices which they fetch in consequence. (Sepaya): Two bull-calves after being castrated and 17 young female calves were sold by public auction during the year. The prices realised amounted to Rs. 725. [This at 1/4 for rupee shows a fraction over 50/- per head].

Fairs and Shows.—There was a greatly increased demand for cattle in this Province; large numbers were exported to Bengal and Assam, the Bengal and North-Western Railway transported 32,792 animals, as compared with 22,880 in 1915-16. Prices in the case of bullcake and buffales remained practically stationary bullocks and buffaloes remained practically stationary. but there was a considerable advance in the case of milch cows, owing to the numbers which are now required to meet the demands of the Calcutta and other Bengal markets. This year I was able to visit Barahpur Fair only, but the Circle Inspectors were present at Sonepur, Bettiah, Khagra, Dharamganj, Singeswar and other fairs in their circles. Temporary hospitals were erected and demonstrations given on the treatment of foot-and-mouth disease and in the methods of inoculating against the different contagious diseases.

Enquiries were made into the water-supply on the roads leading to the Hiranpur market in the Santal Parganas, and as a result of the suggestions made in the report, the Deputy Commissioner has allotted funds to provide tanks and wells as cattle suffer severely during

the hot weather months.

Research Work.—Beyond the diagnosis of slides sent to the Bengal Veterinary College, no research work has been carried out. It will soon be necessary, however, to make arrangements for the training of the Inspectors to carry out work of this characters in their own circles. The employment of an inspector to take charge of the professional portion of the office work, and to help in a small laboratory, which it is proposed to start, is also becoming urgent.

Sheep-worrying: liability of dog-owner.

An appeal by the plaintiff in an action in the County Court of East Grinstead raised a question as to the extent of the liability of the owner of a dog which, in the company of a dog belonging to another owner, had been worrying sheep.

The defendants both lived in the same house. Each of them owned a dog, and neither was in control of the dog of the other. The dogs went out together one night without the knowledge of either defendant and attacked the sheep of the plaintiff, and did damage, as he alleged,

to the amount claimed—£46 8s.

The case was heard in the County Court on June 6 last: neither defendant was legally represented, and the amount of the damages was not disputed. The defendant Leppard had paid into Court, without admitting or denying liability, a sum equal to half the amount claimed, with a proportionate amount of costs; and at the hearing he simply pleaded that he had paid into Court sufficient to cover any damage done by his dog.

The County Court Judge gave judgment for the plaintiff against the defendant Winnifrith for half the damages, and gave judgment in favour of the defendant

Leppard, with costs.

The point of law raised on appeal was whether one defendant, in the absence of connivance or any act except negligence in the keeping of his own dog, could be held liable for the action of another person's dog which had caused or taken part in causing damage owing to the separate negligence of that other person. There was no evidence at the trial that either dog had shown a previous mischievous disposition, or that either was the more likely to have been the cause of the damage. And there was no evidence to show which

dog did the most damage in fact.

Mr. Bevan, for appellant, said that the claim was against the defendants jointly, but, whether the claim was joint or several, he submitted that each defendan was liable for the full amount. The County Cour Judge found as a fact that the damage must have been caused in about equal proportions by each dog. fortunately, the Judge was not asked to take a note until late in the trial. Admissions had been made before that point, and they did not appear on the note. The dogs were both kept at the same place, and it was admitted that on that night both were out at the same time, and were the cause of the damage. The dogs were co-adventurers, and in good law and good sense their owners must be responsible.

Mr. Justice Lawrence said that he did not think that the judgment of the Court below should be disturbed. Mr. Bevan contended that there had been a joint trespass, but there was no evidence before the County Court Judge showing any joint wrong done by the de-fendants. Each defendant would be liable for the fendants. wrong done by his own dog, but to make him liable for what was done by the other dog some joint act must be proved. Here the evidence left it quite vague as to what damage each of the dogs had done, and it was not an unreasonable inference for the Judge to draw that each had probably done about half the damage. It was argued that there must be a presumption that the dogs acted jointly, but there was no such presumption in law, and there was no such presumption necessarily in fact.

As to the admissions made at the trial, no doubt the solicitor of the plaintiff accurately stated what he believed had happened; but his (his Lordship's) experience had taught him that in dealing with laymen, what one thought they were admitting was by no means always what they thought that they were admitting, and he did not think that the defendants here ever meant to make the admissions alleged. The County Court Judge

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

		Anth	Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Swine	Fever.		
Period.				Out- breaks (a)	Ani- mals.	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.	Veek e	nded De	c. 1	4	5				2	57	94	10	28	13
Corresponding week in	{	1916 1915 1914		11 14 14	15 14 14	8	109	1	2 4	33 25	77 49	16 11 8	58 64 88	27 302 484
Total for 49 weeks	s, 1917			392	447			24	51	2259	4225	457	2013	850
Corresponding period in	{	1916 1915 1914		497 528 664	590 594 725	1 48 24	24 669 124	45 46 91	114 80 275	1927 774 1530	4263 1661 2642	263 188 183	4057 3714 4056	9044 15888 37768

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.
(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Dec. 4, 1917

† Counties affected, animals attacked:—Stafford 2

Excluding outbreaks in army horses.

IRELAND. Week ended N	lov. 24							Outbreaks 	14	1	
	1916							15000	12	1	13
	915 914			:::		:::	:::	ï	6	3 1	12
Total for 47 weeks, 1917		3	5			1	1	41	360	195	1125
	1916 1915	3 2	7 2			 1		59 65	406 371	291 227	1691 1289
	1914	1	1	76	957			73	450	182	917

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 26, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

was within his rights in dealing with the damages in this way, and the appeal must be dismissed.

Mr. Justice Aitkin agreed.

The appeal was therefore dismissed; and leave to appeal was refused.

The following comment appeared in The Times over the signature of "Lex."

Sir,—In connexion with the sheep-worrying case reported in *The Times* of the 23rd inst. (Piper v. Winnifrith and Leppard), you may think it worth pointing out that the Dogs' Act, 1906, expressly provides that ". . . It shall not be necessary to show a previous mischievous propensity in the dog or the owner's knowledge of such previous propensity." Apparently the learned Judge's attention was not called to the Act. He is reputed to have said "scienter would have to be formally proved with regard to each dog." The Act also provides that negligence on the part of the owner need not he proved. This provision also seems to have been overlooked, as the question of negligence was raised.

The A.V.C. Comforts Fund.

Dear Sir,—I have much pleasure in forwarding lists of subscriptions and parcels received for benefit of the A.V.C. Fund since previous lists published Oct. 20th, in *The Veterinary Record*. I feel most grateful to all who have sent in such generous contributions, and especially to those kind supporters who have each year sent in such substantial cheques. I am glad to be able to say that we have been able to despatch already this winter over fifty bales and cases to Veterinary Hospitals

in Salonika, and to Mobile Veterinary Sections in France. More will be sent off each week as we can get them prepared, and I trust many units will receive gifts from the Comforts Fund in good time for Christmas. Already letters of much thanks and appreciation from O.Cs., and men themselves, begin to arrive acknowledging safe receipt of the bales. Extracts from these letters I will publish next week if you can favour me with space

May I ask any ladies connected with the Veterinary Corps or profession who are living in the London area to come and assist me with this heavy work of packing and sewing iup the bales? We work three and four days per week, 10 a.m. to 6 p.m. o'clock, and I should be extremely glad of helpers.—Yours truly,

ADELAIDE M. MOORE.

20 Parsifal Road, Hampstead, N.W. 6. Dec. 6th.

Subscriptions received since list published Oct. 20.

per Maj. K. McL. Mackenzie: from Mrs. Pritchard	£25	0	0
per Maj. F. C. O'Rorke: contribution from			
No. 7 Veterinary Hospital, B.E.F.	10	0	0
Mrs. H. B. Mosley	5	0	0
Col. W. L. Pallin	3	0	0
per Mrs. Brittlebank: proceeds "Bridge"			
Afternoons	5	10	0
Mrs. Lenox-Conyngham	1	1	0
Mrs. F. W. Hunt	2	2	0
Mr. G. H. Gibbings		10	6
Mrs. Callingham		10	o
Mrs. J. O. Andrews	1	0	o
Capt. and Mrs. Campey	3	0	ŏ

per Maj. S. F. G. Pallin: contribution from		
No. 1 Veterinary Hospital, B.E.F.	10 10	
Mr. R. Foreman	3 3	U
Mr. G. Foote	2 0	U
Mrs. Bone	1 0	U
Vet. Maj. E. P. Barry (2nd Life Guards)	1 10	O
Miss K. Bevis	2 0	U
Mrs. Ascott	2 2	U
per Mrs. Alison Brown: from Mrs. Bolitto	10	6
Mrs. Fennell	2	U
Mrs. W. Dale	1 1	U
Mr. Alfred West (F.)	2 2	U
Mr. G. A. Bushman (F.)	1 1	0
Mrs A. Leese	1 1	6
Mrs. Kay Lees	10	U
Mrs. Banham	1 10	U
Mrs. J. Temple	1 5	U
Mr. J. F. Rees	1 1	6
Mrs. C. S. Hunting, Loughborough	10	6
Mr. J. B. Manuel	1 11	Ü
Mrs. S. Walker	1 0	
Miss Tissie Mut	3	6
Mr. Harold Morphew	1 1	0
Mrs. Case	2	6
Mrs. Thomson	1 0	0
Mr. T. Salusbury Price (F.)	2 10	
Mr. Charles Sheather and Capt. Sheather	5 0	0
Mr. J. McKinna	1 1	0
Mr. James Martin	1 1	0
Mrs. Lindsay	10	6
Capt. J. C. Ryan	1 0	0
Mr. S. E. Sampson	1 1	0
"A friend"	2 2	0

Parcels received from :-

Mrs. Porteous, Mrs. Hepburn, Mrs. E. A. Holmes, Mrs. Weir, Mrs. Walker (Kirby Lonsdale), Mrs. Shipley, Mrs. Leckie, Mrs. Smith, Mrs. MacGregor, Mrs. F. W. Garnett, Mrs. W. Ascott, Miss Wright, Miss Ramsden, Garnett, Mrs. W. Ascott, Miss Wright, Miss Hainsden, Mrs. Ware, Mrs. Cowan, Mrs. Lattey, Mrs. Hibbard, Mrs. T. S. Howarth, Mrs. T. R. Wadley, Mrs. Clayton, Mrs. Brown, Mrs. R. L. Lees, Mrs. Campey, Mrs. Andrews, Mrs. Burke Savage, Miss MacGregor, Mrs. P. Leckie, Mrs. Nicholls, Mrs. Lenox-Conyngham, Mrs. Charlton, Mrs. Baird, Mrs. H. Kirby, Mrs. Bolton, Mrs. Rutherford, Mrs. J. F. Logan, Mrs. Cullen, Mr. John Perry. John Perry.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Nov. 30.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. V. A. Bartrum, T.F., to be actg. Maj. whilst empld. as Asst. Dir. of Vety. Servs. (Aug. 10).

To be temp. Lieut.:-M. G. Connolly (Nov. 13).

Dec. 1. Maj. A. J. Thompson to be temp. Lt.-Col. whilst empld.

as Dep. Dir. of Vety. Servs. in India (Oct. 1).

Maj. (temp. Lt.-Col.) A. J. Thompson to be temp. Col.

whilst officiating as Dir. of Vety. Servs. in India (Nov. 4).

Dec. 6. The initial of temp. Hon. Capt. F. Armstrong is as now described, and not as in Gazette of Sept. 14.

CANADIAN A.V.C.

Dec. 5. Temp. Capts. to be temp. Majors:—(actg. Lt.-Col. D. S. Tamblyn, (actg. Maj.) C. G. Saunders, (actg. Maj.) T. C. Evans (June 27).

Personal.

GREEN.-On Dec. 1st, at 2 West Street, Bickingham, to May, wife of T. Sealy Green, A.v.c.—a daughter.

OBITUARY.

CHARLES GORTON, M.R.C.V.S., M.P.S., High Street, Whitechapel, E. Graduated, Lond: April, 1869.

Mr. Gorton died suddenly on Monday, 3rd inst., at Wanstead Park, at the age of 72. He is the last of the little group of contemporaries practising in Whitechapel, and near neighbours, which included Messrs. Farrow, Wragg, and Chesterman.

The late Professor A. E. Mettam.

The funeral took place at Dublin on -- morning. A service was held in St. Bartholomew's Church Clyde Road, at 9.15 a.m. The Rev. Canon White officiated at the services in the church and at the graveside in Dean's Grange Cemetery. The chief mourners were R. W. M. Mettam, Lieut. A.V.C., A. S. F. C. Mettam (sons of Prof. Mettam), and T. Morison (brother-in-law).

Others present included Sir T. W. Russell, Bart., M.P.; Vice-President D.A.T.I.,; Mr. T. P. Gill, Secretary D.A.T.I.; Prof. J. R. Cumpbell, B.Sc.; Mr. Herbert G. Smith, M.A., LL.D.; Messrs. J. V. Coyle, Wm. Bowers, M. Deegan, representing the Department of Agriculture and Technical Instruction for Ireland; Prof. J. F. Craig, M.A., Prof. O'Connor, Prof. Browne, Prof. Dunne (F), Dr. S. Johnston, and Mr. Haines, Registrar, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and W. P. Cushnahan, representing the Royal Veterinary College of Ireland; Messrs. D. S. Prentice, Chief Inspector, and Messrs. D. Chief Inspector, Chief Inspector, and Messrs. D. senting the Veterinary Branch D.A.T.I.; Messrs. J. H. senting the Veterinary Branch D.A. 1.1.; Messrs. J. R. Norris, J. B. Dunlop, and L. M. Magee, representing the Veterinary Medical Association of Ireland; Mr. A. Watson, representing the Veterinary Department of the Dublin Corporation; Mr. P. A. Dowling, B.A., Prof. G. Carpenter, and Prof. T. Johnston, representing the Royal College of Science; Col. R. C. Rutherford, C.B., C.M.G. College of Science; Col. R. C. Rutherford, C.B., C.M.G. D.D.V.S., and Capt. Reavy, A.V.C., representing the Army Veterinary Corps; Mr. J. Ewing Johnston, representing the North of Ireland Veterinary Association; Messrs. P. J. Howard and Finlay Kerr, representing the Royal College of Veterinary Surgeons, Mr. F. W. Garnett, President R.C.V.S., and Mr. Fred Bullock, Secretary R.C.V.S.; Mr. W. Cargill Patrick, representing the Central Veterinary Medical Association of Ireland; Prof. R. M'Allister, L.D., representing the Royal Irish R. M'Allister, LL.D., representing the Royal Irish Academy; Sir Frederick Shaw, President, representing the Royal Zoological Society; Dr. Coffey, President, and Sir Joseph M'Grath, Registrar, University College, representing the National University; the Archdeacon of Dublin, Rev. J. L. S. Smylie, Dr. G. H. Pethybridge, Prof. J. Wilson, Sir William Thompson, Registrar General; Dr. S. T. Gordon.

Maj. to be actg. Lt.-Col.:—E. P. Argyle, D.S.O. (Aug. 12).

Maj. T. Marriott, ret. pay (late Lt.-Col.), is granted the hon. rank of Lt.-Col. on ceasing to be empld. (Nov.

S. C. V.S. C.

Russell, G. P. Richardson, M. Darby, J. S. M'Cann, R. B. Freeman, W. H. Wilkinson, Walter Russell (F), F. Mason, J. Doyle, J. J. Kelly, J. D. Richardson, and

Rev. J. L. J. Smylie, Mrs. Kehoe, Private R. Thrower (Norwich), Mr. R. Cantrell, I.S.O., Dr. Stafford Jackson, T. A. Rae, L.D.S.R.C.S.I., Mr. and Mrs. W. Little, Messrs. Francis M. Powell, G. J. Crampton, T. A. Crampton, Fred Hanna, Sir Stewart Woodhouse, Mr. J. G. Swift Mac Neill, M.P., Messrs. A. L. De Renvy, Albert Shaw, Mr. Charles Green, Fisheries Branch; Mr. J. A. Lapphier, Prof. E. J. M'Weeney, M.D., Major W. S. Haughton, R.A.M.C.

All the students of the Royal Veterinary College of Ireland also attended and marched from the house to the church, afterwards accompanying the funeral to the

The following sent wreaths: -Mrs. A. E. Mettam and family; Parents and Sisters; Tom, Maude and Flo; W. H. Bloye, F.R.C.v.s.; Prof. and Mrs. J. F. Craig; Prof. and Mrs. G. T. Dunne; Prof. and Mrs. J. J. O'Connor; Prof. T. G. Browne, and Mr. G. E. Haines. The Students of the Royal Veterinary College of Ireland; The President, Members of Council, and Officers of the Royal College of Veterinary Surgeons; Col. Rutherford, Major Taylor, and Veterinary Officers of the Irish Com-mand: The Veterinary Staff of the Department of Agriculture and Technical Instruction for Ireland; The President and Council of the Royal Zoological Society of Ireland; The North of Ireland Veterinary Medical Association; The Veterinary Medical Association of Ireland; Mr. and Mrs. Charles Allen, Mr. and Mrs. James McKenny, D. Kehoe, M.R.C.v.s., South Africa; P. P. Platt, M.A., Mrs. and Miss Murphy, and Private R. C. Thrower and Kate.

Veterinary Appreciation at Dundee.

A sub-committee of Dundee Public Health Committee at a meeting in the last week in October agreed to recommend that the salary of Mr. Hugh Ferrier, veter inary inspector, be increased from £200 to £300. Mr. Ferrier, in his letter of application, stated that in normal times his salary was inadequate, and he wished the matter considered quite apart from other applications, which, he understood, were founded entirely on the footing of increased cost of living. When he was appointed it was understood and stated that a substantial increase would follow. It was that that induced him to accept the position. He added that a very substantial increase to his salary was necessary before it could be considered adequate.

Mr. Ferrier was invited to attend the meeting to answer any questions that might be put. Asked who made the promise that the salary would be sub-stantially increased, he replied that it was Mr. High. It was stated that as the appointment was a new venture they were just feeling their way. 'The salary

then fixed was never meant to remain.

Bailie Forwell: In face of that, in 1913 they advanced your salary by the handsome sum of £25. He added that the committee at that time did not make any promise.

Mr. Fraser, the convener, said that in addition to the salary of £200 Mr. Ferrier had a war bonus of £30 Bailie Macdonald: For a professional man!

Mr. Fraser: He says distinctly that he will not remain for £300. He told me he could make far more at private work.

Bailie Macdonald: I think he is very much under-

Bailie M'Cabe said Mr. Ferrier was a very conscientious servant, and he would give more than £300 to keep him.

The Lord Provost thought they should be unanimous in recommending that the salary be £300, without the bonus. Mr. Ferrier could make double that just now, but he questioned if he would be able to do that after the war. This was agreed to.-N.B.A.

FEES FOR INSURANCE WORK.

Sir,—I beg to thank you for publishing my letter in your issue of Nov. 17th. I notice "Old Obadiah's" reply in the following number, and I want, with your permission, to answer him briefly.

We as a profession have not to concern ourselves with the ways and means adopted by insurance companies, They will know how to regulate their charges when we as professional gentlemen know how to demand a just

fee for services rendered.

Anybody who will take the trouble to examine a proposal form as usually sent out by an insurance company will be compelled to admit that when a veterinary surgeon is asked to certify that a horse is sound in wind, limb, eye, and heart, that a mare is or is not in foal. that the stables and cow-sheds are sanitary, and that sufficient cubic space is allowed for each animal, that the animal is free from vice, and that all contact animals are healthy, as well as to certify the age and market value of the animal, he is face to face with something more than a mere commercial proposition.

The fact of it is the company expects just what it

asks; but how often does it get it?
Personally, I never could admit of a sliding scale; and, whenever I have examined a horse for insurance, have done it as carefully and as minutely as I would examine a two hundred guinea hunter for a private client, and I have often driven several miles out into the country and found no animal to examine when I got there.

There is no doubt whatever that the fees given by insurance companies to day are only calculated to encourage what is known as "fireside shopping." And I speak advisedly when I say it, for I have been called in on more than one occasion to examine a horse for a renewal policy; the company not being quite satisfied about the animal's age. Well, it was simply remarkable how the horse had "aged" in the course of twelve months. Perhaps he had had a lot of worry. Evidently he had worried more than somebody else.

And who was the loser; Why, the company, of

If every proposer were compelled by the insurance company to provide a veterinary certificate with his form of application, the whole difficulty would be settled, and the veterinary surgeon would simply charge his client in the ordinary way. Failing that, I, for one, have finished with them.—I am, Sir, yours faithfully,

R. J. G. Voisin.

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editors to be addressed 20 Fulham Road, London, S.W. 3

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1536.

DECEMBER 15, 1917.

Vol. XXX.

VETERINARY SURGEONS AND CIVIC SERVICE.

At their recent meeting, a report of which we printed last week, the members of the Midland Counties V.M.A. were able to congratulate their colleague, Mr. T. Chambers, upon his election as Mayor of Dudley. Such appointments are always honourable, and are especially so just now; for a Mayor taking office is entrusted with heavier responsibilities than in normal times. Most veterinarians, therefore, will join the Midland members in congratulating Mr. Chambers; but probably many will do so with a tinge of accompanying regret that such appointments should still be comparatively rare amongst us.

Quite a number of veterinary surgeons, not all of them widely known in the profession, have served a term as Mayors of towns or boroughs. Probably every member could name a few, some still with us, others no longer living. Yet it must be confessed that their number is still low. It is distinctly an unusual thing for a veterinary surgeon to become a Mayor, and those who know the profession

understand why.

The essential preliminary to a Mayoralty is a fairly long record of service upon the Corporation; and, broadly speaking, veterinary surgeons do not engage freely in this or any other public work. Very many medical men and solicitors aspire to a share in the public life of their localities as the natural accompaniment of a successful professional career; but comparatively few veterinary surgeons do so. After making allowance for the numerical disproportion between the professions we cannot deny that doctors and lawyers, taken collectively, are far more ready to enter public life than we are.

The records of those of our members who have taken their part in public life show that a veterinary surgeon may rise in it almost or quite as easily as other professional men. Here, as in some other fields of industry, many members have opportunities of doing good service, but few utilise them.

THE SOMME V.M.A.

The initiation of an association in one of our camps behind the fighting line in France—a note of which we are enabled to print this week, per favour Major Fred. Hobday, promises a much more "live" affair than its prototypes at home here usually are. Their cases are plentiful, their meetings frequent, and the broad similarity in the practice will ensure a more general ground for comparison and discussion than is found in the divergencies of ordinary practice. Apparently there is little chance of reports of the meetings reaching us in a form to enable us to present them to our readers.

ACUTE ARTICULAR RHEUMATISM IN THE HORSE—RHEUMATIC FEVER,

On 18th November, a big Shire gelding, seven years' old and in good condition, was taken lame whilst walking with an empty cart. On the 19th I attended and found the horse blowing, very lame off-hind with considerable swelling from hock to fetlock. A physic ball was given, diuretic powders left, with cooling lotion for leg.

On the 20th the lameness was just as acute, leg still swollen, temp. 106, pulse 80, conjunctiva injected, urine high coloured, and an anxious expression of countenance. The ordinary fever draught was given three times daily, with cooling lotion

o leg

This was continued until the 24th, when the opinion was formed that the horse was suffering from acute rheumatic fever with endocarditis: temp. still 106, pulse 80 to 88.

The following mixture was now given :-

Mag. Sulph. 3iss.
Sodae bicarb. 3ss.
Sodae Salicylas 5iii.
Ext. Digitalis P.D. 11x.

T. i. d.

With belladonna liniment and hot fomentations to fetlock.

From now on the temperature gradually came down, but pulse became quicker and weaker. The horse lay down regularly until the 27th, when he was put in slings and appeared to get great relief, but on 5th December he became worse and had to be taken out of the slings; the temperature now being 102, pulse 120.

On the 6th the animal was in a state of collapse; temp. 101, pulse 130, so that it was decided to

destroy him.

The P.M. showed acute synovitis of the fetlock joint, with straight furrows on the articular cartilages from before backward. There was a small spot of erosion of the cartilage of the suffraginis at its juncture with the sesamoid bones; the quantity of synovia did not appear excessive.

The heart muscle had a boiled and streaky look, with commencing vegetations of the endocardium in the left auricle, just above the insertion of the

mitral valve.

My excuse for this description of the case is that it is rare; I can only recall having seen one other and that was only recognised as acute arthritis.

For a fuller description of the disease I would refer those interested to Wallis Hoare's work, which will fill in the blanks in this somewhat vague record of a case.

V.S.

TETANUS.

We have recently had various views regarding the treatment of tetanus put before us, but unfortunately do not appear to have struck a reliable remedy for this serious complaint, so that when one is confronted with a case the question arises, What treatment shall I adopt here?

Reports have been published in which the treatment appeared so successful that only a few days of it were necessary for the animal to be able to be

discharged cured.

The cases which one has had recover have, as a rule, been under treatment for a lengthy period, and this has caused one to ask oneself the question, Was any particular drug the antidote, or did recovery take place in spite of the drugs? I have not

been able to find a satisfactory answer.

It appears to be agreed that some cases are hopeless from the commencement; that others with very little attention will recover. The first named have evidently absorbed a large dose of the toxin, and are often of a nervous and irritable disposition; whilst, presumably, the second have only had a small dose of the toxin, and are of a quiet and contented disposition. The intermediate cases are those in which the toxin appears to be absorbed freely into the system, and the animal has a quiet disposition.

The treatment one has generally followed has been to give as soon as possible an aloes ball, other drugs being given per rectum as enemas. Those used have been a combination of Extract of belladonna, Carbolic acid, and Iodide of potassium in water. Salol has been tried because of its being a carbolic compound, and sometimes one has thought

with good results.

The animal has been placed in a quiet loose box; whatever food the animal would take has been given. If unable to take food per orem enemas have been given. When there has been any doubt regarding the animal being able to keep on its feet it has been put into slings.

Tetanus serum has been given. In the case of a foal which contracted the disease through docking by a neighbouring farmer, the foal was re-docked and treated entirely with serum. It made a good

recovery.

During the present year we have had three cases of tetanus: one in a yearling after castration; two in mares, one of which had had a slight sore on her side, made by the plough chains, the other had cast a shoe and pricked her foot; the disease appeared after the foot had been treated by the smith, and

The colt was put into slings, given a dose of physic and treated with injections of the drugs previously mentioned. His legs suffered from the prolonged standing (a month), but he is now a useful animal. The first mentioned mare had a comparatively mild attack. She was given a physic ball, and being able to eat a little, was given Belladonna and Pot. iodide in her foot. Hypodermically serum was given; 500 units per injection daily

for five days, except on the second and fifth, when she was given double quantity. A second aloes ball was given on the seventh day. She appeared to be losing ground, the mucous membranes were dirty, appetite failing. After the ball had operated she was much brighter and improved rapidly; by the fifteenth day she had practically recovered. It was never necessary to put her into slings.

The second mare was given a dose of physic, followed by enemas of Bellad., Pot. iodide, and Salol. Belin's treatment was tried in addition (V. R., Oct. 27/17) on the second day. Twenty c.c. of a solution of Permanganate of potash, 3 in 1000, was given intravenously. The foot was dressed down to the quick until it bled freely, where the prick had been, and the wound so made packed

with powdered Permangate of potash.

The intravenous injection was repeated the following day in the opposite jugular, double the quantity being injected. A considerable amount of swelling took place at the seat of inoculation, therefore it was not gone on with. Perhaps the heavy weight of the mare's iron-bound hoof planted spasmodically on the operator's foot reduced his enthusiasm.

On the third day she was put into slings. From then until the tenth day, 1000 units of serum were given daily. As no fæces were passed a dose of Physostigmin and Pilocarpin were given on the third day. This was repeated on the tenth, fifteenth,

nineteenth and twenty-second days.

On the fifteenth day the medicated enemas were stopped, and Chlorate of potash was given in the

drinking water.

On the twentieth day a decided improvement was noticeable, and on the twenty-third she was taken out of the slings for a few minutes, and moved carefully about, the owner was instructed to take her out every day and exercise as much as the mare could bear without being distressed.

On the 28th day the mare could walk fairly well and eat naturally. There were no signs of tetanic

spasms.

The owner nursed the mare well. She could drink a little during the whole time, but about the fourteenth day her prospects of recovery appeared very remote. She tried to eat a little hay but it had to be pulled out of her mouth, as she was unable to swallow it. The bowels would not act normally. From the sixteenth day they were stimulated to action once a day by soap and water enemas. On the 23rd they commenced operating well, and the mare was able to eat well.

In this case the good nursing played an important part. The use of slings and the hypodermic injections of Eserin and Pilocarpin vital parts. The intravenous injections were thought to be beneficial. Had they been persisted in the course of the disease might have been shorter. Whether the other drugs and serum played any active part or not, as I have said previously, I cannot satisfy myself. Perhaps our worthy editor will welcome a discussion on the subject in The Veterinary Record.

E. H. PRATT.

ABSTRACTS FROM FOREIGN JOURNALS.

THE PHYSIOLOGICAL PROPERTIES AND THERAPEUTIC ACTION OF CARBONIC ANHYDRIDE.

H. Roger published a long article upon this question in La Presse Medicale. For a long time carbonic anhydride was regarded as a useless and dangerous residue which was eliminated by the respiratory apparatus. Brown-Sequard, however, deduced from his investigations that CO2 discharges an important function in the economy, and serves to stimulate the nervous centres. This conception has been resuscitated in recent years, and has given rise to much work. In the words of modern physiologists, CO2 is the hormone upon which devolves the direction of the respiratory mechanism. But, useful as CO2 may be, it should not be concluded that its innocuity is absolute.

When air containing 1.5 % of CO2 is inhaled, the proportion of the gas in the pulmonary aveoli and the blood augments rapidly. A new equilibrium is established; and the respiration continues calm and regular, but more ample and more rapid. A proportion of 20% is easily supported, upon condition that the experiment is not greatly prolonged, as at the end of a few days the animals die, and death appears due to the excessive work of the respiratory apparatus. If 30% of the gas is used, the animals die in a few hours; or if 60% is used, in thirty

minutes.

CO2 also acts upon the circulation. As can be demonstrated in asphyxia, its accumulation elevates the blood pressure and renders the cardiac movements more slow and more energetic. If the tenor in CO2 diminishes, the heart becomes accelerated; and, if it falls to a very low figure the cardiac movements succeed one another with such rapidity that the heart remains in an almost tetanic condition. When the reduction of CO2 is less marked but is prolonged, lowering of the blood pressure and tachycardia are observed; the veins and capillaries lose tone, and the animal falls into a state of very grave prostration, apparently similar to nervous shock and mountain sickness.

Thus, like many other substances, CO2 exercises two opposite actions upon the heart. In small doses it acts as a tonic; in larger doses it is toxic,

and produces relaxation of the myocardium.

Carbonic anhydride appears necessary to the satisfactory functioning of the nervous centres and to the maintenance of their reflex excitability. When an animal has been submitted to hyperrespiration, and the exaggerated ventilation of the lung has made the reserve of CO₂ diminish and disappear, the nervous system loses its excitability.

The anæsthetising properties of CO2 brought into evidence by Brown-Sequard, have for some time been ntilised in the treatment of painful wounds, and especially of burns. For the same reason, vaginal douches of CO₂ have been recommended in the treatment of uterine affections. Even in cancer, the disappearance of the pain, the disinfection of the discharges, and the diminution or suppression of the fœtor are obtained by its use.

The anæsthetising properties of CO2 are utilised when ærated waters are prescribed against dyspertic troubles, gastralgia, or vomiting. The sensitiveness of the mucous membrane diminishes under their influence, and the reflex accidents of which the mucous membrane is the starting-point are suppressed.

The therapeutic action of CO2 is completed by an excitation of the muscular fibres of the digestive tube. CO2 provokes contraction of unstriped muscles. This is proved very simply by compressing the trachea of a young rabbit, when intestinal movements are perceived under the abdominal

wall, which is very thin at that age.

These facts are of practical application. It is classic to use clysters of arated water in the treatment of obstinate constipation and even of occlusion. Here the CO2 acts by provoking contractions sufficiently strong to overcome the obstacle. Ærated waters are also used against tuberculosis, and in the treatment of laryngitis or chronic bronchitis. In these cases the favourable influence of CO2 must be somewhat complex; for inhalations of it act in turn upon the bronchial secretions, the microbes contained in them, the contraction of the bronchial muscles, and finally upon the respiratory centres, the innervation of which they stimulate.

Upon the blood the action of CO2 is not less important. The experiments of Koranyi and Berce have proved that the CO2 contained in the venous blood changes the dynamic and chemical relations between the plasma and the globules. The electric conductivity, the viscosity of the blood, and the refractive power of the serum, are profoundly modified. Kossa has proved that the phosphaturia following asphyxia is due to an action exercised by CO2 upon the hæmatics, which liberate phosphoric acid. Having an action upon all the cells of the economy, CO2 exercises a marked influence upon The influence upon the blood is also manifested by an augmentation of the bactericidal

New physiological discoveries suggest the substitution of inhalations of a mixture of CO2 and oxygen for those of oxygen in many cases in which the latter have been employed. Paul Bert's classic conception of mountain sickness, universally accepted, is that it is due exclusively to the rarefaction of the oxygen. Mosso's studies now suggest a new theory, according to which the most important factor in the disease is the diminution of CO2. This is demonstrated by the fact that the symptoms of mountain sickness, which do not cease upon inhalations of pure oxygen, disappear immediately if the patient respires a mixture of CO2 and oxygen, especially if the inert nitrogen is excluded, and the two active gases alone used.

Etters Levi has proved that a mixture of CO2 and oxygen containing 20% of CO2 arrests the accidents of surgical anaesthesia. An animal experimentally intoxicated by injections of morphine and inhalations of chloroform, in which the symptoms are aggravated if pure oxygen is inhaled, regains the normal in a few seconds by means of inhalations of a mixture of CO₂ and oxygen. This method has been used with full success to combat the accidents with chloroform in some surgical cliniques of Florence. It may even, perhaps, be employed as a preventive of accidents, by adding to the frequently employed anæsthetic mixture of Oxygen and chloroform a proportion of from 2 % to 5 % of CO;2.

Etters Levi has also studied the effect of inhalations of CO2 in cases of Cheyne-Stokes breathing. In this condition inhalations of oxygen alone prolong the period of apnea, while inhalations of

CO₂ and oxygen cause it to disappear.

It is possible that in many cases in which inhalations of oxygen give good results, mixtures of oxygen and CO2 would give better. In many pulmonary affections, their stimulation upon the respiratory centres might render the pulmonary ventilation more active. They might also serve to combat troubles following the inhalation of irritant gases.—(Revista de Higiene y Sanidad Pecuarias).

W. R. C.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—SOUTHERN BRANCH.]

A general meeting was held at 50 Friar St., Reading, on Friday, Nov. 30. After tea had been partaken of the chair was occupied by the President, Mr. J. Willett and there were also present: Messrs. J. W. McIntosh, Hugh A. MacCormack, R. J. Verney, and the Secretary, Mr. G. P. Male; also two visitors: Messrs. A. Kirke, M.R.C.V.S., and B. Gunn, M.R.C.V.S.

It was resolved that the minutes as published in the

veterinary journals be taken as read.

Apologies for absence were sent by Messrs. W. T. D Broad, Marlborough; J. C. Coleman, Swindon; S. H. Slocock, Hounslow; F. Bazley, Devizes; H. G. and T. Lepper, Aylesbury; and J. H. Parker, Faringdon; J. McKerlie, Hungerford; G. E. King, Abingdon.

A letter was also read from Mr. J. Sutcliffe Hurndall,

South Kensington, in which he asked the members to accept his resignation owing to reasons of health.

The Hon. Secretary stated that Mr. Hurndall had for some time past been considering his resignation and had of late been unable to attend the meetigns.

The President proposed that the resignation be occepted with great regret, and feelingly alluded to the great services that Mr. Hurndall had rendered to the Association for a number of years.

Mr. VERNEY seconded the motion, and said that Mr. Hurndall was one of the earliest members of the Association and had been most active and regular in his attendance.

The resolution was passed.

Mr. W. N. Thompson, M.R.C.V.S., London, was proposed for membership by the President, who said what a very valuable and useful member Mr. Thompson had been to the Central Society.

Mr. McIntosh seconded the proposal, which met with

unanimous acceptance.

Mr. Esmond Brown, M.R.C.V.S., of the Board of Agriculture, was proposed as a member by the Hon. Sec.

Mr. MacCormack seconded, and the President supported the motion, remarking that Mr. Brown's scientific attainments would be of great benefit to the Association.

This proposal was also carried unanimously.

sion to join their Association, but he hoped that every member would remember the Association, and extend a hearty invitation to any of those with whom they came into contact.

ELECTION OF OFFICERS.

The election of Officers for the ensuing year was next

proceeded with.

Mr. McIntosh proposed that Mr. Willett should be asked to undertake the office of President for another year. The present was a very inopportune time to make a change, and owing to the difficulties in railway facilities, and the fact of so many members of the profession being in the army, country members were not able to attend the meetings as often as they would like. Mr. Willett was within easy distance of Reading and had filled the post with such distinction for the last two years that he hoped he would see his way to continue for another year.

Mr. MacCormack seconded, and endorsed all that had been said as to the good work that the President had put in for the Association. Although he realised that it meant extra work, he hoped that Mr. Willett would again consent to become President. He thought it would be hardly fair to ask a new man to undertake the office at this juncture. Every President wished to have his fling, and with a paucity of attendance the

present was not quite the time for this to be done.

Mr. WILLETT thanked the members. He stated that he thought some other member should be asked to fill the position, preferably one from the country. He was of opinion that the Presidential office should only last for one year. His time was so fully occupied that he felt he must decline the honour.

After further remarks by Mr. Verney and the Hon. Secretary, Mr. Willett was induced to again occupy the chair on the understanding that he should be relieved of the Presidential address.

The Vice-Presidents: Messrs. W. A. Hancock, W. T. Broad, J. Parker, and R. J. Verney, were re-elected cn bloc, on the motion of the President seconded by Mr. MacCormack.

The PRESIDENT proposed that Mr. G. P. Male be again elected Hon. Secretary and Treasurer, and thanked him for his past services.

This was seconded and carried.

Mr. MALE thanked the members for their kind remarks, and said that under the circumstances he would consent to act for another year. He found it very diffi-cult indeed with his small staff to do the extra work involved, but he hoped that he would get more encouragement from the members by attending the meetings more regularly. He apologised for not arranging more papers, but explained that he could scarcely ask men to read a thesis when there were so few members turned up to hear it. He would, however, do his best to carry on.

Mr. H. A. MacCormack was elected Auditor on the proposition of the President, seconded by Mr. McIntosh.

VETERINARY SURGEONS AND THE ARMY.

Mr. Male brought to the notice of the members the action of the Royal College of Veterinary Surgeons in issuing instructions to Tribunals throughout the country not to exempt veterinary surgeons of certain categories irrespective of the needs of the community. He related a case of one of his assistants who was exempted by the local Tribunal with a special recommendation that his services would be far more useful in his present capacity, and strongly advising that he should remain in his present employ. That exemption was unanimously advised by the Tribunal and the Advisory Committee. The Military Representative, however, at once raised an objection of the bed in the Advisory Committee. The Hon. Secretary said that he had not always objection, as, he said, he had a circular from the Royal the opportunity to invite other members of the profes- College of Veterinary Surgeons saying that veterinary surgeons should not be exempted. Consequently no further action could be taken in the matter. Now the Royal College was petitioning the War Office to allow students who were in their early years of training, and who were already trained soldiers to take up their studies. And they gave as a reason that there was a great scarcity of members of the profession in the country and that the live stock would consequently suffer. Surely that was very inconsistent. Live stock were more valuable now than they would be some years hence, after the war, and it was of the most vital importance to preserve the lives of cows and horses, of which there was a great shortage. The students now being trained would be of no use to the country for several years, in which time, it was hoped, the war would be over, and large numbers of temporary veter-inary surgeons now serving with the army would again take up their civil practices. It seemed almost an insult to dictate to local tribunals who knew the needs of the district and the work that was being done by a practitioner. Whether they exempt a man or not should be left to their discretion. It was not a personal matter, for ten men, two qualified assistants, and a dispenser were already serving, and had he been fit, he would have entered the army at the beginning of the war. He (Mr. Male) proposed the following resolution: "That in view of the great scarcity of veterinary surgeons, especially in country districts, the members of this Association think it advisable that the matter of exempting veterinary surgeons should be left to the discretion of local Tribunals, knowing as they do the conditions pre-vailing in their particular districts."

Mr. McIntosh seconded the motion, and said that he thought it a very inconsistent policy on the part of the Royal College to wish for men to leave the army to complete their training, and at the same time to advise that trained veterinary surgeons should be taken from districts where they were badly needed, to go into the army. That policy had multiplied the number of "quacks" all over the country, and it would be most difficult to eradicate that evil after the war. It was not with any lack of patriotism that he seconded the motion, but he thought it was a matter of most vital national importance that the health of the live stock of this

country should be preserved.

The PRESIDENT also spoke in support of the resolution, which met with the unanimous approval of the meeting.

MORBID SPECIMENS AND INTERESTING CASES.

Mr. Verney exhibited two very extraordinary and interesting morbid specimens. The first was the os pedis and os coronæ of a valuable Shire mare, showing a remarkable exostosis round the pedal joint, with ulceration of all the articular surface of the pedal bone. The animal to which it belonged was seen in consultation with another veterinary surgeon. It was extremely lame, holding the foot up and putting no weight on it. The hair was cut off round the coronet, but there was no enlargement or evidence of any injury or suppuration. The mare continued very lame although she was blistered several times, and he advised that she should be slaughtered. She was kept for about twelve months, and when seen again there was a large prominence at the coronet. There was no history of the horse having received any injury.

Mr. McInrosh said that he had a number of somewhat similar cases in London from treads which caused

severe lameness followed by arthritis.

Mr. VERNEY said there was no evidence of a tread. He thought it might have been caused by slipping in

suppurating arthritis and the animal would not have do a day's hunting. He treated the animal, and advised

survived a twelve-month; she would have been unable to stand owing to the pain, and would have died, prob-

ably from septic pneumonia.

Mr. Male said he had seen great lameness caused by the penetration of the hoof at the coronary band by sharp bodies, such as blackthorns, pieces of wood, etc. The hoof had closed over, so that it was sometimes very difficult indeed to see where the bodies had penetrated. After a time pus formation resulted, but owing to thickness of the skin the pus did not always appear externally but set up acute arthritis. He thought from the

appearance of the exostosis that this was a similar case.

The second specimen was the distal phalanges of a horse which had been unnerved on December 3, 1909, and which had worked until Oct. 1, 1917, drawing coal, and part of the time in a cab. It had not been lame but walked on its heels, and the hoof was deformed. The os pedis and the navicular bone were completely anchylosed by a very extensive deposit of bone which also involved the os coronæ. He (Mr. Verney) thought it very remarkable that a horse could have worked for that length of time with a bone so extensively diseased.

The President thanked Mr. Verney for showing such interesting specimens. He thought that they were both worthy of being placed in the museum of the College.

Mr. Male raised the question whether the exostosis was due to the disease which had caused the original lameness or whether it was the result of unnerving

In answer, Mr. Verney stated that the animal had been operated upon for navicular disease and at that time the legs were perfectly clean. He thought the

growth was due to both causes.

The President related a case on which he asked the opinion of the meeting. The subject was a hunter gelding, seven years old, which he was called to see. the heart beats were visible from a distance, and they did not correspond with the pulse. The animal fed well but rapidly lost flesh and grew weak, until, on the cighteenth day, if was destroyed as a being of me further eighteenth day, it was destroyed as being of no further use. A post-mortem examination being made the heart was found to be enormously enlarged and dilated. Its weight was 22\frac{3}{4} lbs The curious part about the case was that the horse was working regularly until the day on which he (the President) saw it, and it had fed well until the last. The hypertrophy was not of recent origin. Evidently the wastage was due to the blood not being oxidised properly; but it would be interest-ing to know what was the exciting cause of the excessive enlargement of the heart.

In answer to Mr. McIntosh, Mr. Willett said there were no lesions on the valve and the heart muscle was not paler than usual, the lungs were normal, and the liver appeared to be sound. He had no history of any

febrile disease.

Mr. McIntosh thought it was a most unusual case He expressed the opinion that the hypertrophy had probably been there for some time, but when dilatation took place the temperature rose, the animal got weak and death soon resulted.

Mr. Male said there were many cases found at postmortem examinations to have dilatation of the heart, but they showed no signs of it during life. This case was unusual owing to the excessive hypertrophy.

Mr. Male recorded the case of a hunter mare, about seven years old. It was showing all the symptoms of broken wind in an excessive degree. It had no rise in temperature and fed well, but had the characteristic cough, the double flank movement and the dilatation of the nostrils, also peculiar to the disease. The animal had been brought up from grass about three weeks, and the stable.

The President held the view that it was not of traumatic origin, as in that case there would have been a might be useful for hacking it would never be able to

that it should be turned out on the grass for several hours each day. To his surprise he received a letter from the owner in about a fortnight saying that the animal appeared to be normal, and that it was being exercised preparatory to hunting. Mr. Male asked the members for their opinion, and stated that he had several somewhat similar cases this year. He suggested that it might possibly be due to the climatic conditions, but considered it most probable that these wases were due to the animal being taken up from grass and brought into a box. Had the animal been turned out for a short period each day it probably would not have happened.

Mr. Verney said he had two similar cases which each occurred on the same farm. One horse was caught up from grass and put in the plough. There had been some difficulty in catching it, and it had galloped about a good deal. It began to blow and was stopped from work. When seen it had no temperature and no catarrh but showed all the signs of broken wind. He administered 1 oz. doses of glyco-heroin every few hours and in three days the animal was quite right again. The other horse had been recently purchased and was put in the same box as the previous case, when it also became affected. He thought it might be due to some organism, and advised that the box be thoroughly disinfected.

In answer to Mr. McIntosh he stated that there was

no tympany or congestion of the lungs.

After other interesting cases had been discussed the meeting terminated with a vote of thanks to the Chair-

G. P. Male, M.R.C.V.S., Hon. Sec.

THE SOMME VETERINARY MEDICAL ASSOCIATION.

A suggestion was started that a Veterinary Medical Association at a centre "somewhere in France" would be likely to be beneficial to those veterinary officers who were stationed in the neighbourhood, and the outcome were stationed in the neighbourhood, and the outcome of it was that the following officers met together on October 29th:—Col. Newsom, c.M.G., D.D.V.S.; Majors Learing, D.S.O.; Hobday, Porteous, and MacArthur; Capts. Burton, Ferguson, Player, Marks, MacMahon, Braund, Watson, and Finch; Lieuts. Mettam and Bloye.

Before the meeting two interesting hospital cases were shown by Major Hobday: one a case of "arrested development" in a seven-year-old horse, and the other a

case of paralysis of flexor metatarsi muscle.

After an address by Col. Newsom, explaining the objects and mutual benefits accruing from such an association, it was decided that meetings be held each week (or each fortnight, as circumstances permitted) on Mondays, at 5.30; and it was unanimously agreed that the Society be called the "Somme Veterinary Medical Association." Col. Newsom, c.M.G., was unanimously elected President, the Vice-Presidents being Col. Kendal, Maj. Leaning, D.S.O., and Maj. Hobday. Lieut. Mettam was appointed Secretary.

As qualifications for membership, it was decided that all must be duly qualified veterinary officers in the Army Veterinary Corps; and as visiting members it decided to admit all veterinary officers of the Allied Forces, all lay officers attached to the Directorate or the Veterinary Service of the Army Veterinary Corps.

In regard to subjects for discussion, it was unanimously agreed that "subject headings" were preferable to actual papers, and a number of titles were suggested for consideration; such, for example, as :-

1. The Organisation of the Army Veterinary Corps-(a) At the Front; (b) Mobile Sections; (c) In the Hospitals.

The Pros and Cons of Clipping.
 Certain diseases—such as Glanders, Cellulitis
 Epizootic Lymphangitis, Stomatitis, Mange

Ringworm, and others.

4. Mallein: Its uses, vagaries, etc.

The first subject was selected for the next meeting, to be held on November 5th, and Col. Newsom promised to address the members upon it.

THE CAMEL AND ITS DISEASES. Being Notes for Veterinary Surgeons and Commandants of Camel Corps. By H. E. Cross, M.R.C.V.S., D.V.H., A.SC., Indian Civil Veterinary Department, Camel Specialist to the Punjab Government. Pp. viij + 151, including index, with 48 figures in the text. Price 5/- net. (Bailliére, Tindall, & Cox. 8 Henrietta Street, Covent Garden, London. 1917.)

Another small handbook on the Camel is now before us, written in this instance partially to meet the needs of Commandants of Camel Corps as well as those of Veterinary Surgeons. It briefly surveys the purchase, loading, and feeding of camels, methods of restraint, all the principal and some of the minor medical and surgical troubles of the animal and their treatment, with short sections upon anæsthesia and castration. It concludes with two appendices, one of vernacular names of diseases and the other of vernacular names of fodders used for camels in the Punjab, both of which are likely to be very helpful to, at least, some readers just now. In addition, there is a chapter on camel breeding, by Major G. E. M. Hogg, a specialist in the subject, whose contribution, though informative, would be more so if it were not so discursively written. The medical and surgical parts of the work which occupy by for the most so parts of the work, which occupy by far the greater portion of its bulk, are more satisfactory. Here and there as in some of the directions regarding methods of restraint-we come upon descriptions that might have been more clearly worded; and some subjects, such as anæsthesia, are distinctly too briefly dealt with. At times, too, the work appears to suffer a little from a strictly veterinary point of view on account of having been partially written for unprofessional readers-some information had to be inserted for their benefit which a veterinary surgeon might safely be presumed to possess. On the whole, however, the author has made good use of his small space, and has produced a work which, elementary as it is, will be very serviceable to a considerable number of readers. It is true that one of the chief effects of its perusal has been to impress us still further with the need for a much larger and more detailed work upon the subject; but, in the meantime, this little volume will assist many. W. R. C.

Disease in Horses.-Forfarshire.

At a meeting of the directors of the Highland and Agricultural Society of Scotland, held in the Society's hall, 3 George IV. Bridge, Edinburgh, on Wednesday 8th inst., it was reported on behalf of the Science Committee that a letter was received from Mr. Hugh Committee that a letter was received from Mr. Hugh Martin, Flowerdale, drawing attention to the prevalence in certain districts of Forfarshire and Perthshire of a disease affecting horses at grass, from which very serious losses had occurred during recent years. An investigation into the subject had been carried out by Professor Dewar, Edinburgh, and Mr. T. M. Inglish Professor Dewar, Edinburgh, and Mr. T. W. Inglish Professor Dewar, Edinburgh, and Mr. 1. In. Inglis, M.R.C.V.S., Forfar, and a copy of their report was submitted, from which it appeared that they ascribed the disease to the eating of alsike clover at a particular stage of its growth, viz., immediately before flowering, at which stage the plant was supposed to develop certain poisonous properties.

It was agreed to recommend that Prof. M'Alpine and Dr. Tocher be asked to visit the fields, examine the pastures, and collect all available data, and that Mr. Martin be asked to form a local committee of farmers who would point out the fields, and give all available information.

Mr. Martin said the disease made its appearance in Forfarshire about four or five years ago, and it was now spreading to Perthshire. It was a serious matter. He knew one farm, not far from his own place, on which four horses had died, and on another farm a pair had succumbed. Such investigation as was proposed would be of great advantage.—The Scottish Farmer.

The Merits of the Mule.

A Queensland paper says:—
"Descended originally from the species of wild ass inhabiting the rocky semi-desert of Upper Egypt, where food is scarce and the heat intense, the Jacks transmit to their hybrid progeny the faculty of resisting privation and withstanding tropical heat, which horses do not

10

M 27 ... 17 E.

The testimony of those who have had experience of both horses and mules is convincing as to the superiority of the latter. They live longer, and are able to withstand the effects of hard work for a greater number of years; they are constitutionally stronger, and less liable to sickness; they can be kept on coarser and cheaper food, and they are hardier and able to resist extremes of temperature, especially heat. Their narrow and small hoofs make them more sure-footed than horses, and they can pick their way over the mountains and on the edge of precipices without much risk of disaster, and in positions such as these show more pluck and caution than horses.

It is conceded at once that a mule is not as fast as a horse, and the heaviest draught mules are not as good as the heavier horses for actual pulling power; but an ordinary team of mules will beat the ordinary team of horses for pulling and for travelling great distances where food is scarce.

There are two distinct types of jacks in Europe. Those for getting heavy draught mules are bred in Poitou, in the West of France. The height of these is about 15 hands. In America, where hundreds of thousands of mules are bred each year, the Spanish or Catalonian jacks are the most popular. The Kentucky mules are famous all over America, and owe their fame to two Catalonian jacks imported to America in about 1830 or 1840, and crossed with the ordinary female donkeys of the State, they have produced a most useful strain of mule-breeding jacks. So highly appreciated are mules in the West States that, in 1890, 150,000 mules were foaled. At the present time something like 200,000 are foaled annually. In America one sees them doing heavy dock work and railway work, in the country ploughing and ordinary farm work, and they are invaluable in mining and pack work. They will carry over 2001b. over rough, high country if properly loaded.

It has been proved they will pull better if a mare is in the lead, for, having been foaled and brought up by mares, they have a great affection for horses, and a distinct of the strain of the property of the strain of the three street.

It has been proved they will pull better if a mare is in the lead, for, having been foaled and brought up by mares, they have a great affection for horses, and a dislike for asses. It is generally considered that three mules can be kept on fodder that would only be sufficient for two horses. The objection to mules on the score of bad temper and obstinacy may be dismissed by the remark that, in the opinion of competent judges, these so-called vices are the outcome of mismanagement and cruelty to beasts of highly-nervous temperament, which require kindness and intelligence in handling."

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:—

A. E. Darwell, Leigh, Lancs.	£1	1	0
J. A. Griffiths, East Africa	1	1	0
M. C. Tailby, Birmingham	1	1	0
Previously acknowledged	925	6	0
	£928	9	0

ARMY VETERINARY SERVICE

Buckingham Palace, Dec. 12.

The following had the honour of being received by The King this morning, when His Majesty, invested them with the Insignia of Companions of the Orders into which they have been admitted:—

THE DISTINGUISHED SERVICE ORDER.

Major David Turnbull, Army Veterinary Corps.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Dec. 10.

REGULAR FORCES ARMY VETERINARY CORPS.

To be temp. Lieut.:—P. F. Wilson (Nov. 22).

Temp. Qrmrs, and Hon. Lts. to be Hon. Capts:—A. O. Hildyard (Nov. 12); H. B. Wall (Nov. 25).

Dec 11

Temp. Capt. G. H. Pollock relinquishes his commn. on account of ill-health, and is granted the hon. rank of Capt. (Dec. 12).

Temp. Lt. to be temp. Capt. :- M. Cahill (Nov. 20).

The following casualties are reported:-

KILLED-Capt. J. Sherley, attd. R.F.A.

DIED OF WOUNDS—Capt. R. E. Leach, attd. R.F.A. Act. Sgt. G. Hislop, 11275 (Edinburgh).

DIED-Pte. A. Kent, 19825 (Manchester).

WOUNDED—Capt. C. Tracy, attd. R.F.A. Capt. A. W. Campbell.

OBITUARY.

ROBERT EDWARD LEACH, Temp. Capt. A.V.C., The Chestnuts, Newmarket.

Graduated, Lond: July, 1912.

Mr. E. H. Leach, F.R.C.V.S., of Newmarket, has received news that his eldest son, Capt. Robert E. Leach died from wounds at the front on November 29th. Capt. Leach was 30 years of age, and since he obtained his diploma had assisted his father in his important practice. He joined the army just after the outbreak of the war, and had been serving in France since the Spring of 1915.—East Anglian Daily Times.

James Sherley, Bedale, Temp. Capt. A.V.C., Lond: June, 1888.

Mrs. A. E. METTAM and Family desire to return thanks for all kind enquiries and expressions of sympathy tendered to them in their recent bereavement, also for floral tributes.

Dublin, 11th Dec.

Cruelty to a dog in Birmingham.

In the Third Court of Birmingham Police, on Nov. 27th, Edward Timmings, fitter's labourer, 128 Anthony Road, Saltley, was summoned for neglecting a Great Dane Bitch, in such a manner as to cause it unnecessary suffering. Mr. G. Botteley prosecuted on behalf of the Birmingham Society for the Prevention of Cruelty to Animals.

On Nov. 12, the animal was found in a coal-house at the back of defendant's house by Inspector Beesley. She was lying on the bare ground, and there were no signs of food, water, or bedding. The animal had knawed the door-post and also its own fore-leg. She was taken away, and without any medicinal treatment she increased from 57½ lb. to 66 lb. in a week, and to 73 lb. in 13 days. A similar Great Dane bitch weighed 90 lb.

Mr. Woodward, M.R.C.V.S., said the dog's condition was simply due to starvation; there was no sign of disease to account for the animal's emaciated state. A photograph was put in showing that the animal was little better than a skeleton at the time it was rescued by Mr. Beesley.

Defendant denied that he had neglected the dog, and said he had tried his best to increase the dog's weight

without success.

The Chairman (Mr. Arnold E. Butler) said it was the worst case in connection with poor animals that the magistrates had had before them. They did not feel that justice would be met by giving defendant the opportunity of paying a fine. He would be sent to gaol for two months.

A substitute for Iodine Tincture.

A highly placed German veterinary surgeon states from long experience that tincture of iodine can be effectively replaced by the following mixture: FeSO₄, 5; tannin (dissolved in spirit), 5; acid carbol. liq., 1; water to 100. Carbolic ink, as he calls it, is stated to be both disinfecting and drying to wounds.

Mountain Sheep.

When the report on the Census of Production Act was prepared estimates were made of the numbers of sheep of each British variety, and although the data on which the figures were founded must have been very incomplete, it appears that of the total of 27 millions included over 5,000,000 were Blackfaces alone, 2,650,000 Cheviots, 2,000,000 Welsh, and 1,173,000 "Scotch," probably mountain bred, and 531,000 Herdwicks, quite apart from Lonks, Dartmoors, Exmoors, Limestones, and other types of pure and cross-bred sheep. Thus more than one-half the sheep in England, Scotland, and Wales consist of mountain varieties.

NOTES ON EXAMINATIONS.

Sir,—Veterinary Students, I feel sure, are under obligation to "An Examiner" for his hints on the art of passing examinations. But I venture to suggest the debt would have been greater had "An Examiner" paid less attention to precept and platitude in his essay and more attention to grammar. Badly constructed and lumbering sentences, split infinitives and liberties with the laws of syntax are hardly excusable in those who sit, or have sat, in the seat of judgment.—Yours truly,

Précis.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

					Anthrax		Foot- and-Mouth Disease.		Glanders.†		sitic nge. ‡		Swine Fever.	
Period.				break	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.	
GT. BRITAIN.	Week en	nded Dec.	8	9	8				2	68	118	18	20	6
Corresponding week in	-{	1916 1915 1914		12 18 15	17 18 15	7	32	2 3	4 4	46 34	85 91	21 13 5	54 62 87	17 134 574
Total for 49 wee	eks, 1917			400	455			24	53	2328	4344	475	2033	856
Corresponding period in	{	1916 1915 1914		509 546 679	607 612 740	1 55 24	24 701 124	45 48 94	114 84 279	1973 809 1530	4348 1752 2642	284 201 193	4111 3776 4143	9061 16022 38342

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.
(1) Confirmed. (b) Reported by Local Authorities.

Roard of Agriculture and Fisheries, Dec. 11, 1917

Excluding outbreaks in army horses.

IRELAND. We	eek ended De o	2. 1							Outbreaks	16	1	2
Corresponding Wee	ek in $\begin{cases} 1916 \\ 1915 \\ 1914 \end{cases}$:::			:::	 3 1	9 7 4	3 9 3	19 18 2
Total for 48 weeks,	1917		3	5			1	1	41	376	196	1127
Corresponding peri	$ \begin{array}{c} \text{iod in} & \begin{cases} 1916 \\ 1915 \\ 1914 \end{cases} $		3 2 1	7 2 1	 76	957	 1	 3 	59 68 74	415 378 454	294 236 185	1710 1307 919

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 3, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1537

DECEMBER 22, 1917.

VOL. XXX.

THE DECLINE OF GLANDERS.

From time to time, in addition to the Board of Agriculture's returns, information reaches us which illustrates the decline of glanders. One instance occurs in the veterinary section of the annual report of the Medical Officer of Health for Birmingham dealing with the year 1916, an abstract of which we print to-day. Only one case of glanders occurred in Birmingham in 1916, and this was "undoubtedly introduced from outside." This means that one of the largest cities in England no longer contains centres of glanders within its boundaries—it may be regarded as free from the disease, though still exposed to introductions from without. We all know the part which large cities have played in maintaining and spreading glanders, and its elimination from them is one of the best signs of our progress against the disease.

An approximate estimate of the total glanders return for Great Britain may now be formed. Roughly, it will represent an average of one outbreak in every fortnight. This relates only to the civil horse population—we do not know how much glanders exists in the army. The possibility of a not inconsiderable re-introduction of glanders from the army is the one contingency we have to fear in the eradication of the disease from the kingdom; and it could easily be met. Mallein testing immediately before disbandment of all army horses intended for sale would reduce the danger to negligible proportions.

THE NECESSITY FOR MEAT INSPECTION.

In Mr. Malcolm's report mentioned above, there is a valid argument for systematic meat inspection. Six cases of anthrax occurred in the Birmingham district in 1916; and in two of them the carcases were sent to the abattoir with a view to human consumption. If one-third, or anything like that proportion, of the anthrax carcases of such a district as the Birmingham one are submitted for sale in this manner, what is likely to be happening in less well-regulated localities. As many or more may be sent; and it is certain that in very many parts of England there is far less chance of detection than in Birmingham.

Mr. Malcolm justly remarks that these two cases prove the necessity for meat inspection; and he has done a public service by recording them. They may well be used by public health propagandists all over the country. The recognised public apathy regarding meat inspection is chiefly due to the general ignorance of the dangers pertaining to meat. Nothing is more likely to quickly remove that ignorance than the widespread dissemination of definite evidence such as this.

UNDIAGNOSED.

By Jas. Brown, M.R.C.V.S., Ramsey, Isle of Man.

I read with interest Mr. E. H. Pratt's communication under the above title in the V. R. of Dec. 8. I have had cases similar to that he describes, and also am not clear as to the cause of the disease. I relate a case which I have cause to remember, and which occurred in December of last year.

A yearling colt, taken from the field, was walked to the auction mart a distance of one mile, and there sold.

As the purchaser lived in the same direction, and had to pass by the late owner's farm, for convenience the colt was left there for the night, and was put into the same field as it had been taken from in the morning. Next morning the late owner saw the colt grazing in the field as usual. In the afternoon the owner arrived, intending to walk the colt home, when it was noticed to be ill. I was then called in, and on arrival found the colt lying on its side, occasionally looking round to the flank, would give a convulsive struggle, throw up the head and grind the teeth. Breathing hurried, membranes injected a bright red; temperature normal; pulse rapid and weak. After a deal of persuasion the colt rose, went down again in fifteen minutes, and never got on its feet again. When forced to walk it had a swinging gait, moved very stiffly, the muscles made a creaking sound as is sometimes produced by a pair of new boots. The urine was dark, coffee-coloured. He struggled frequently during the night and died the next day. Under the unforseen circumstances, they both declined ownership. I did not make post mortem. In these cases the vascular, nervous and renal systems are all more or less affected.

I have had cases in colts similar to this previously, single cases which one passes over; but three years ago, in the course of ten days, out of three outbreaks, five animals died. On one farm two colts were affected simultaneously, they were in a field, but were able to walk home, were put into loose boxes, went down and never got on their feet again.

Some days later and six miles from the previous farm, I was called to other two colts; they were found in the field in the morning unable to rise, and had to be brought in on sleighs. These four presented the same symptoms; membranes injected, hurried breathing, sweating, coffecoloured urine, paralysis. They all died within 48 hours. Some days later I was called to another colt, five miles from last. This animal lived three days. The symptoms were of a milder type; ate a little at first, but paralysis set in later,

These cases are puzzling. Of course, they all presented symptoms similar to azoturia, but being affected in pairs, it points to some form of vegetable poison, although nothing of the kind could be discovered. An analysis of the ingesta was mentioned, but my clients declined to proceed in the matter.

All these cases occurred in young animals, unbroken, not housed, and exposed to all weathers; they were all in good, thriving condition. I have only seen such cases in November and December.

Is the affection induced by climatic conditions, or by some form of poisoning; or is azoturia common in young animals?

Treatment was very unsatisfactory. I have tried laxatives, followed up with stimulants; in the last case I tried Adrenalin chloride, but to no purpose.

A MODIFICATION OF THE ROARING OPERATION.

Coquot, in Le Recueil de Médecine Vétérinaire, for 1917, published an article describing a modification in the operative treatment of roaring. Many horses in the army are roarers and it is advisable to subject them to Williams' operation rather than discard them. The operation of arytenoidectomy, which Cadiot rendered fairly common in France, is now no longer performed. It has been replaced by the operation of Williams, which consists in the resection or ablation of the ventricle,

Coquot describes the method of performing the operation and its results. As is known, in consequence of the ablation of the ventricular sac, there is a cicatricial process which, by the retraction it causes, progressively withdraws the arytenoid from the median line. The ventricle of the glottis disappears, and the glottal space enlarges. Very often, however, the vocal cord does not follow the arytenoid in this process of retraction towards the exterior. It remains flaccid and inert, and forms a kind of fold which disturbs the passage of air.

To remedy this, Coquot performs an ablation of the median part of the vocal cord. He removes a square strip of from 10 to 12 millimetres in width. There is afterwards a more notable and rapid cicatricial contraction, which renders any folding

of the cord impossible.

As a final precaution, Coquot recommends that, immediately after the operation is completed, a provisional tracheotomy tube should be introduced into the laryngeal wound, and brought into the trachea. This laryngo-tracheal tube, systematically employed, at once secures the animal from all danger from ædema of the glottis. The latter condition is always sudden in its appearance, and causes asphyxia and death unless treatment can be prompt. The tube is withdrawn four or five days after the operation.—(La Clinica Veterinaria).

SOAP IN WOUND TREATMENT.

Ratinsky, in La Presse Médicale of 1916, published an article recommending soap in the treatment of wounds. Lucas Champonnière had previously recommended the same substance. Ratinsky finds Marseilles soap, in the proportion of 25 grammes to the litre of water, especially useful.

He washes the wound with this solution, and then applies compresses upon it. If the wound is anfractuous, he carefully causes the soap solution to penetrate into all its channels, and continues the washing until the granulations are well cleansed and the liquid collected is free from coagula, pus, or filaments. When the washing is finished he applies compresses impregnated with a 20 % soap solution. This is prepared at the moment by vigorously rubbing cotton or gauze against a pieec of soap, until a saturated and greasy solution is obtained. The compresses, before being applied, are manipulated between the hands in order to obtain a fine and abundant lather in their meshes, so that the compress assumes a porosity analogous to that of a fine sponge. This soap-saturated gauze is brought into contact with the wound in all its interstices and diverticulæ.

The compress acts like a locally applied sponge. It dilutes and aspirates the pus little by little as it is produced, while the strata of fine air-bubbles imprisoned in its meshes accomplish capillary drainage in a surprising manner The alkaline substances in the soapy solution, by their avidity for water, absorb abnormal liquids.—(La Clinica Veterinaria).

AN OINTMENT FOR TREATING WAR WOUNDS.

P. Guillon, writing in La Revue générale de Médecine Vétérinaire, advises the following ointment for the treatment of septic, anfractuous, suppurating war wounds:—

This is applied every three or four days.

W. R. C.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN LONDON.

At a meeting of the Board of Examiners, held in London on December 7th, 1917, for the Written, and on December 7th for the Oral and Practical Examinations, the following gentlemen passed their Final Examination:—

Mr. J. D. Haywood
H. C. Driver
C. J. Peach
T. Le Q. Blampied

Mr. H. Cooper
C. S. Conder
S. H. Pettifer
F. J. Andrews

The following passed their Third Examination:

Mr. H. W. Brekke
A. Bayly
C. H. P. King
L. N. Devenish

Mr. H. Thornton
I. R. R. Coleman +
H. J. Edwards
F. L. Haydon *

The following passed his Second Examination:

Mr. H. Jerrom.

The following passed his First Examination: Mr. N. S. King.

EXAMINATIONS IN LIVERPOOL.

The following passed their Final Examination; Mr. C. Wadsworth Mr. W. L. Marshall

W. F. Aston *

The following passed his Third Examination: Mr. A. Williams

The following passed their Second Examination: Mr. H. S. Robinson Mr. J. K. G. Sisson

EXAMINATIONS IN EDINBURGH.

The following passed their Final Examination:

Mr. A. N. Metcalfe R. Beattie J. Litt

Mr. A. D. Sanderson T. A. Shaw D. G. Wishart

The following passed his Second Examination: Mr. D. Buchanan (Stable Management).

The following passed his First Examination: Mr. John Lyon.

EXAMINATIONS IN GLASGOW.

The following passed his Third Examination: Mr. C. Macpherson *

The following passed his Second Examination: Mr. C. T. Murphy

EXAMINATIONS IN DUBLIN.

The following Students were successful in the recent Examinations at the R.C.V.I., Dublin.

The following passed their Final Examination;

Mr. J. J. Clune J. J. English D. Mahony P. McLaughlin T. A. O'Brien W. Walsh W. E. Barry

M. Donohoe

Mr. W. Ford W. J. Henigan G. P. Kennedy J. McCauley C. E. McCrea A. H. Morris J. P. Morris

J. Malone

The following passed their Third Examination:

Mr. J. C. Malone M. A. O'Connor J. J. O'Donovan * Mr. G. West W. White *

The following passed the Examination in Stable Management:

Mr. A. J. Devine

Mr. M. A. O'Connor

The following passed their Second Examination:

Mr. T. Anderson J. V. Carroll C. A. Lister J. J. Lyons

Mr. R. J. Nolan T. O'Carroll J. Patterson

The following passed their First Examination:

Mr. W. J. Dill J. Fitzgerald Mr. J. O'Kane P. Walton

T. Foley C. McCloskey

A. F. Callanan T. F. Connolly, M.A.*

Marked thus † passed with First Class Honours. Marked thus * passed with Second Class Honours.

VETERINARY STUDENTS AND THE ARMY.

The following letter has been received by the Secretary of the Royal College of Veterinary Surgeons from the Ministry of National Service :-

> THE MINISTRY OF NATIONAL SERVICE, WESTMINSTER, S.W. 1. 17th December, 1917.

All Communications to be addressed to the Secretary quoting this reference: HD/DM. R.3./Stud 96.

In reply to your letter of the 13th October with reference to Veterinary Students, I am instructed by the Minister of National Service to state that the recommendations made by the Council of the Royal College of Veterinary Surgeons have been carefully considered.

As regards Veterinary Students now serving with the Army as Officers or Privates, this Department will be prepared to recommend to the War Office the release of any students who have passed their first veterinary examination provided they are not being employed in the Army on Veterinary work and are in a medical category below B 1, or, in the case of Officers, are not fit for service overseas, and I am to request that the Royal College of Veterinary Surgeons will furnish this Department with particulars of any Officers and men now serving who comply with the above conditions and whose release is desired. This Department would also be prepared to consider the case of veterinary students prepared to consider the cases of veterinary students who have passed their first veterinary examination and are now serving in the Navy with a view to recommending their release, if, on enquiry, it is found that their services can be spared by the Admiralty.

As regards second year veterinary students who are now studying at one of the affiliated schools referred to in your letter, I am to remind you that under current instructions such students are protected from military service provided they are, if over the age of 31 on the 25th February last, in a category lower than "A" and, if under that age, in a category lower than B 1, and for the time being any man who is placed in Grade 2 by a National Service Medical Board is for the purpose of these instructions treated as being in a category lower than B 1. It is presumed that the second year students now studying in the schools are, with possibly few exceptions already protected under these instructions, and in view of the urgent need of the Army for men in the higher medical categories, Sir Auckland Geddes is not prepared to extend the protection already given to veterinary students now in civil life.

I am to add that in the immediate future it is thought that the reduction in the number of cattle in Great Britain should relieve the situation as regards the need of veterinary surgeons and demobilisation after the war will release a considerable number of men who are now employed in the Army as veterinary surgeons.—I am, Sir, your obedient servant,

(Sd) J. M. Balfour, Asst. Secretary.

The Secretary, Royal College of Veterinary Surgeons.

ANNUAL REPORT, CITY OF BIRMINGHAM.

[The following sections form part of, and are incorporated in, the Report of the M.O.H., John Robertson, M.D., B.SC., for the year 1916. The report itself is a good one from the view of medical administration. The sections which we reproduce, slightly abridged and omitting tables, show continued effort in connection with the milk supply; and a brief but useful résumé of the position of contagious disease in animals.]

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INSPECTION OF COWS AND COWSHEDS IN THE CITY. J. MALCOLM, F.R.C.V.S.,

THE

During the year 1916 the inspection of cows has been systematically carried out by the Veterinary Inspectors as heretofore, though fewer visits have been made owing to the war reduction in the Veterinary staff. The numbers in the city at the end of the year were as follows:-

Cowkeepers. Dairy Farms. Sheds. Cows. 141 149 342 2025

During the year seven farmers have commenced and one former dairy-farmer has resumed cow-keeping. Eight dairy-farmers have discontinued keeping cows. There are thirty-six other farms where dairy cows were formerly kept, but where none are at present.

1907 visits of inspection have been paid to cowsheds in the city area. At each visit the Veterinary Inspector

examined both cows and cowsheds.

Forty cows were found affected with catarrhal mastitis or inflammation of the udder, and six with emaciation, two of which proved to be due to Johne's disease and four to anæmia. The milk from these cows was prohibited from sale, temporarily or permanently, according to the case.

The continued scarcity of labour has made it very difficult to maintain the former high standard of cleanliness of the cows and cowshed in some instances, but the great majority of the farmers have continued to do their best, and on the whole the condition of the cowsheds and the cleanliness of the cows inspected have have been satisfactory.

Tuberculosis and the Milk Supply.

The effort to reduce the amount of tubercle infection in the milk sold in the city has been continued on the lines of previous years: (a) The detection of infected milk; (b) The detection of cows with tuberculosis of the udder or others giving infected milk; (c) The eradiation of tuberculosis from delivery hards appropriate leville. cation of tuberculosis from dairy herds supplying |milk to the city

Mixed Milks. Twenty-five samples of mixed milk have been taken during the year. Of these seven were taken at the farms and eighteen at city railway stations. Three of these were found to contain tubercle infection, and the offending cow in each case was subsequently

traced.

Individual Milks. Forty-six samples were taken from individual cows at the farms; nine of these were found to contain tubercle infection. The milk from the infected cows was at once prohibited from sale and eight of the cows were subsequently slaughtered. The ninth cow was purchased for Prof. Leith, to provide him with tubercle infected milk for his research work; she was subsequently slaughtered. The cow mentioned in last year's report as purchased for Prof. Leith's research work created a record, in that she gave tubercle infected, though quite normal looking, milk for a continuous period of fourteen months.

ERADICATION OF TUBERCULOSIS FROM DAIRY HERDS.

During the year twenty-eight herds were dealt with, and twenty-five of these, numbering 629 cows, were free at the end of the year, and three herds, numbering 107 cows, were being freed. The testing of two herds had

been discontinued.

The results of the testing, which had been carried out half-yearly, again show that breeding dairy herds into which only young heifers are introduced can be maintained in a tubercle-free state easily and economically. On the other hand, those Birmingham herds which have

cows they can obtain. This difficulty is owing to the non-reaction to tuberculin of some of the new purchases, which is due either to their being very recently infected, or to their having acquired a tolerance to the tuberculin test as a consequence of their having been previously recenty tested.

It is here of interest to record that in establishing tubercle-free herds, and keeping such up by home breeding, these herds have been coincidently maintained free from two other contagious diseases, viz., contagious abortion and Johne's disease. It is found that when a herd is free from these diseases, and is kept up by home breeding, it is maintained free, since such diseases are set up in a free herd by the introduction of

infected stock.

A point of real importance in connection with the spread of tuberculosis is the easy transmission of the disease from healthy-looking tuberculin reactors to tubercle-free cattle. Our experience is that very soon after a recently infected cow becomes a reactor she becomes capable of transmitting infection, so that many tubercle-free cows rapidly become infected by healthylooking ones in the early stage of the disease; in fact, any reacting cow, however recently affected and however healthy-looking, must be regarded as liable to spread the disease.

From a tabulated list it will be seen that 1668 cows were tested during the year, of which 1453 passed and

215 failed to pass.

The cows which failed were again in most cases cows which were purchased subject to passing the test, and having failed were returned to the vendor. The doubtful reactors already in the herd were isolated and retested a month subsequently; about fifty per cent. of

these eventually passed.

The newly purchased and other cows tested for the time last year numbered 316. Of these 61, or 1930 per cent., reacted, and 21, or 6.64 per cent., were doubtful, i.e., 25'94 per cent. failed to pass the test as compared

with 22.79 last year.

The testing of the herds was carried out partly by a Corporation Veterinary Officer and partly by the dairymen's Veterinary Surgeons, acting on behalf of the Corporation. The herds dealt with are visited periodically to see that the reactors are isolated from the free, that the cows in the free herd are being properly looked after, and that the hygienic regulations are complied

The extra cost of this work during the year was £189 3s. 4d., of which £39 19s. was for tuberculin and £149 4s. 4d. for veterinary fees and expenses. In 1915 the extra cost was £115 14s 7d., and in 1914 £168 3s. 7d.

CONTAGIOUS DISEASES OF ANIMALS.

I have pleasure in submitting report on the occur-rence of some of the chief scheduled contagious diseases

in animals here during 1916.

Glanders and Farcy. There has been one case of this disease in Birmingham during the year; this was undoubtedly introduced from outside. Fortunately, the precautions taken against the spread of infection proved successful, and no other case or suspected case occurred. It is again some satisfaction to be able to record its continued decline throughout the country. Last year there were 46 outbreaks, in which 117 animals were attacked, against 50 outbreaks with 95 animals attacked in 1915, 97 outbreaks with 286 animals attacked in 1914, and 789 outbreaks with 2433 animals attacked in 1908the first year under the present Glanders Order. Possibly the end of the war may again see some increase in to be kept up by the purchase of mature milking cows this disease, but with the recently acquired accuracy in can only be kept free with some difficulty, though Birmingham dairy farmers systematically buy the best ease should not be long deferred. Anthrax. Eleven cases of suspected anthrax in animals were reported last year. After examination only six were proved to be cases. One of these occurred in a bull at a public sale of shorthorns. In two cases the infected carcases were sent to the abattoir, with a view to their being passed for food; one of these was from an outside farm, the other from a city farm. The other three cases died on farms in the city and were at once reported to the Local Authority. Three of the cases occurred on a farm where there was no record of any previous case of anthrax, the animals being fed on one maker's cake, but examination of the cake, proved negative. The fact that two of the infected carcases were found to have been sent to the abattoir, with a view to their being passed for human food, shows the necessity for constant expert inspection of all meat that is to be used for human food.

Rabies. Two cases of vicious dogs were submitted here, but in neither was there any symptom really suspicious of rabies. The fact that in the preceding year one case of rabies was imported shows the necessity for retaining the present measures against the introduction

of this fatal disease.

:

Swine fever. During the year 134 cases of sick or dead pigs have been submitted to me for inspection. In addition 22 cases have been dealt with by one of the whole time Veterinary Inspectors of the Board of Agri-culture, who certified sixteen of them to be swine fever cases and the others not. Of the 134 cases submitted to me, 36 presented symptoms more or less suspicious of swine fever, and of these 20 ultimately proved to be

During the year the system of passive immunisation by serum against swine fever inaugurated by the Board of Agriculture in the preceding year has continued in force. The initial success noted in that year has not only been maintained but surpassed. Indeed, in my experience, in properly selected herds, where all clinically affected pigs have been slaughtered, and an adequate system of isolation prescribed, the serum immunisation has proved an unqualified success, and I am satisfied that if this system were to be supplemented by a modification in the common law requiring all pigs sold to be guaranteed by their vendors as free from swine fever at the time of sale, the prevalence of the disease would soon show such a marked diminution as to foreshadow the successful eradication of swine fever.

Parasitic mange in horses. There were 16 horses under detention for mange at the beginning of 1916, and 45 horses were certified as affected during the year. the 16 first mentioned 11 made good recoveries. and the other five, being old and worn out horse and not worth prolonged treatment, were slaughtered by their owners. Of the 45 certified during the year three old worn out horses have been slaughtered, 37 have been cured, and 5 were under detention at the end of the year.

The number certified during the year (45) compares favourably with 111 during the preceding year. The lessened movement of horses for army purposes during 1916 as compared with 1915, is no doubt largely responsible for the diminution in the number of cases.

The Mange Order has proved a valuable measure: the amount of equine suffering and horse owners' loss would have very much greater but for this Order.

Johne's Disease. Perhaps a note on this very prevalent, incurable, contagious disease, though it is not included in the list of the Board of Agriculture's scheduled in the list of uled contagious diseases, may not be inappropriate. This disease, although its true character has only been recognised for the last ten years, is now known to be widely distributed, and the number of Johne-affected animals that come into the Birmingham abattoirs is much larger than is generally known. Indeed, as much Johne-affected meat is condemned as unfit for human

food in Birmingham to-day as is condemned from being affected with tuberculosis.

If it were more generally known that recovery from Johne's disease (in the light of our present knowledge) is hopeless, that the longer Johne-infected cattle are kept alive the less is their value, until they are finally valueless, and that while they live they spread the infection of the disease, stockowners would speedily limit their expenses and cut their losses from Johne by immediately having their affected animals slaughtered.

INVESTIGATIONS INTO THE INFECTION BY ONCHOCERCA IN CATTLE IN THE NORTHERN TERRITORY OF AUSTRALIA.

On 6th January, 1914, experiments were commenced by J. F. McEachran, M R.C.V.S., and Gerald Hill, F.E.S. for the purpose of investigating and determining, if possible, the nature of the intermediary hosts of Onchocerca gibsoni, the cause of Worm Nodules in cattle.

For these experiments six calves, one of which died on the voyage to the Territory, were obtained from Victoria, where worm nodules are very rarely found in locally-bred cattle. These calves were about six months old, and were tested for tuberculosis before being shipped for the Territory. No precautions were taken during the voyage to protect them from the bites of flies and mosquitoes. Two calves were placed in an open pen, two in a screened pen, and one, together with a locally-bred calf, with the dairy herd. All were slaughtered in July, August, and September, and the results were recorded, and published by the Department of Trade and Customs.

In these experiments calves in screened and open pens 30 yards from infected cattle did not become infected, whilst calves, both Victorian and locally bred, grazing with dairy herd became infected, definite nodules being found. Thus the only imported calf to become infected was the one that was in direct contact

with infected cows of the dairy herd.

It was decided to carry out further experiments on the same lines, but during the period July or August to January or February. To this end, negotiations were entered into with the Department of Agriculture in Victoria for the supply of six female calves six months old. The calves were tested for tuberculosis, with negative results, and shipped to Darwin, where they arrived on 26th July, 1915. No special precautions were taken on the ship to prevent the calves being bitten by flies and mosquitoes, but during their passage from the ship to the experimental laboratory at Fannie Bay they were watched carefully, and no insects were seen to bite them.

Two calves (a) and (b) were placed in screened pen (A), two calves (c) and (d) were placed in open pen (B), and two calves (e) and (f) were allowed to go free in the paddock with three infected local cows. A control calf (1), locally bred and three months old, was also placed

in the paddock with the infected cows.

Pens (A) and (B) were the same as those used in the previous series of experiments, but they were cleansed and whitewashed, and the concrete floors were repaired (A) was enclosed with fine brass wire gauze, and the entrance to it was through a porch with double doors.

During the course of the experiments no biting insects

or ticks were fould in this pen, either on the calves on the walls or floors, but Musca domestica gained access to it on several occasions. On 3rd March, i.e., three weeks before they were killed for post-mortem examination, the calves broke through the wire gauze, but were quickly replaced and the gauze repaired. As these calves showed no nodules on post-mortem examination, it is our opinion that this short exposure to the attack

Throughout these experiments, calves (a), (b), (c), and (d), in the screened and open pens, were fed on fodder imported from Victoria, and no locally-grown matter was used as bedding. Calves (e), (f), and (g), running in the paddock with infected cattle, had their grass feed supplemented by locally-grown rice chaff. The only drinking water used by the latter was obtained from a drinking water used by the latter was obtained from a bore 116 feet deep. This water, which was not subjected to an examination, was provided in an iron trough which was rarely, if ever, cleaned out during the course of the experiments, but which was replenished every day. Water from the same bore was supplied daily to the penned calves in galvanised iron buckets.

These calves were kept in a paddock on high ground, to prevent their coming into contact with swampy land, but a week before being slaughtered, they broke through the dividing fence and reached temporarily inundated ground, though only for a short time. The paddock in which they were kept was tick infested, and the calves had to be treated periodically in order to destroy the

ticks.

During the period 14th February to 21st February, six early morning examinations of the calves were made with the object of discovering a possible ground-living wector that might bite the calf whilst lying down, but drop off as soon as the calf rose from the ground. The examinations were, therefore, made as soon as the calves rose, the briskets and under portions of the belly being searched.

Searches were also made of the patches of ground on which the calves had lain, but on no occasion was any possible parasite found. Further early morning examinations of grass and soil upon which cows had rested overnight were made on six occasions in February and March, in the vicinity of Darwin, with negative results. In both localities, however, a thorough search was rendered most difficult owing to the luxuriance of the pasturage.

POST MORTEM.-1. GRAZING WITH INFECTED CATTLE.

On the 20th March, 1916, i.e., nearly eight months after arriving in the Territory, imported calf (e) was killed and a post-mortem examination was made.

Two small nodules about the size of a pea were found on the right side of the brisket in the region of the junction of the sternum and the xiphoid cartilage. No

nodules were found in any other part.

Imported calf (f) was killed for post-mortem examination on March 30th, and one small nodule, about the size of a split pea, was found between the fourth and fifth ribs on the right side. None were found in any other part. This calf showed many hemolymph glands

Control calf (g) (nine months old and Territory bred) was killed on the 22nd May, and one nodule, about three fourths of an inch long and half-an-inch wide, was found at the third rib on the right side.

The nodules were sectioned and examined by one of us, and later by Dr. Gilruth, and the presence of

O. gibsoni confirmed.

Comment.—This experiment confirms the finding of McEachran and Hill, that calves reared in the vicinity of experimental pens and allowed to graze with infected cattle, themselves became infected, as do imported calves from a nodule-free State living under the same conditions. |Further, as these calves were confined to a high, well-drained paddock up to within a week of slaughter, it is obvious that infection was not by a purely aquatic animal, unless in the bore water, which seems improbable.

BITING INSECTS.

Imported calves (c) and (d) were placed in open pen (B) on 27th July, 1915. The pen had a concrete floor infected during the same period when inclosed in an

of biting insects did not in any way affect the results of and was enclosed by two walls and a roof, the remaining two sides being quite open, allowing ingress of flying and crawling Arthropods. The infected cattle grazing in the paddock could come up to 30 yards from the penned calves (c) and (d), and, indeed, were encouraged to do so by being fed there, but were never in actual contact with them.

From the latter part of November until the date of slaughter these calves were exposed to the attack of biting flies, and, as in the case of the former experiments, we know that they were frequently bitten by Tabanus mastersi (Walker), Tabanus nigritarsis (Taylor), Stomoxys calcitrans (Lynn), and Lyperosia exigua (de

Flies of the last-named species were very troublesome to these calves in February and March, causing the characteristic sores on the brisket, under surface of the throat and inner canthi of the eyes. It is almost certain that they were bitten also by several species of *Culicidæ*. and probably by "sand-flies."

Buffalo lice (Hamatopinus tuberculatus, Burn), which were found on calves occupying this pen during the first series of experiments, were not found on these calves, nor, indeed, upon any cattle depastured in the vicinity of the laboratory during the period July, 1915, to April, On the other hand, ticks, Boophilus australis (Fuller), which were not found on any of the experimental calves used by McEachran and Hill, were more or less numerous on both calves throughout the period of these experiments, necessitating the use of dipping fluid on several occasions.

These calves were slaughtered for post-mortem examination on 22nd March and 3rd April respectively, both

with negative results.

Comment. The negative results of this experiment appear to eliminate from the list of possible vectors Tabanus mastersi, Tabanus nigritarsis, Stomoxys calcitrans, Lyperosia exigua, and Boophilus australis. It should be stated, however, that our observations show that certain species of Tabanidæ, notably Tabanus rufinotatus (Bigot) and Tabanus cinerescens (Macleay) rarely, if ever, attack stock under a roof.

We have no definite record of the species of mosquito that bit the calves in this pen or in the particular open paddock, but it is fairly safe to assume that the occu-pants of this pen and the calves grazing in the open paddock were frequently bitten by the following common species, namely, Myzorhyncus bancrofti (Giles), Culicelsa vigilax (Skuse), Chrysoconops acer (Walker), Culex sitiens (Wied), Pseudoskusea basalis (Taylor), and Teniorhynchus uniformis (Theob), all of which are more or less plentiful in the near neighbourhood.

3. Control-Insects.

Imported calves (a) and (b) were placed in a screened pen (A) on 27th July, 1915. During the whole course of the experiments no biting insects or ticks were found in the pen, though, as previously mentioned, the calves were exposed to the attacks of insects for a short period one afternoon, owing to their breaking rhrough the wire gauze.

Post-mortem examinations were made on calf (a) on 24th March, and on calf (b) on 10th April, both with negative results. This experiment was practically a repetition of the 1914 experiment in the same pen, and the post-mortem finding in each case was negative.

SUMMARY OF EXPERIMENTS

- 1. Calves from a nodule-free State become infected within eight months of their arrival in the Territory when grazing on high, dry ground, along with infected cattle.
- 2. Calves from a nodule-free State did not become

open pen with concrete floor within thirty yards of a paddock within which affected cattle were depastured, although exposed to the attacks of winged and apterous Arthropoda.

3. In view of the post-mortem findings in experiment No. 2, negative results were to be expected in experiment No. 3, in which calves were prevented from attacks of the same Arthropoda by fly-proof netting.

CONCLUSION.

The results of this series of experiments have not led to the discovery of an intermediary host of the parasite causing Onchocerciasis in cattle, but they have definitely excluded certain species that have been considered as possible vectors, namely, Lyperosia exigua, Stomoxys calcitrans, Tabanus mastersi, T. nigritarsis, Boophilus australis, and any purely aquatic forms other than those possibly found in the bore-water.

Further, we consider that the mosquitoes referred to in the comments on experiment No. 2 might safely be

added to the above list of excluded vectors.

BUFFALO AND ZEBU CATTLE.

During the period April-June, 1916, six aged and two young wild Swamp Buffaloes, which were shot in the vicinity of Darwin, were carefully examined for Worm Nodules by one of us, the results being negative, as in previous examinations. Wild Zebu cattle and domestic cattle grazing on the same country are invariably infected, the former apparently more heavily than the latter.

From one heavily infected Zebu bull a well-developed and typical nodule was removed from the tissues immediately under the skin, eight inches behind the junction of the last sternal rib with the sternum, and twelve inches from the median line of the belly.

In none of our examinations of Zebu and domestic cattle have we been able to discover O. gibsoni behind

the femoro-tibial joint.

CAMPBELL G. DICKINSON, B.V.Sc. Chief Veterinary Officer.

GERALD F. HILL, F.E.S., Government Entomologist.

Darwin, Northern Territory, 15th August, 1916.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Dec. 14.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lt. to be temp. Capt. :—H. Hicks (Dec. 1).

Temp. Qrmrs. and Hon. Lieuts. to be Hon. Capts. :—R. Lovett (Dec. 5); J. Fisher (Dec. 6).

Col. (temp. Brig.-Gen.) L. J. Blenkinsop, D.S.o., from Dir. of Vety. Servs. in Inria, to be Dir.-Gen., and to be granted the hon. rank of Maj.-Gen., vice Col. (Hon. Maj. Gen.) Sir R. Pringle, K.C. M.G., C.B., D.S.O. (Dec. 1).

To be temp. Lieut.:—J. Craig, W. S. Petrie, J. P. Rice (Nov. 12).

Temp. Lt. J. White relinquishes his commn. (Dec. 20).

The following casualty is reported:—
WOUNDED—Capt. J. S. Keane, attd. R.H.A.

OBITUARY.

James McKenny, M.R.C.v.s., Stephen's Green, Dublin. Graduated, Albert Coll: April, 1867.

By the death of James McKenny, of Dublin, the veterinary profession has lost an able and active member; a man who was justly regarded as one of the pillars of his profession in Ireland. He was one of the old school, attracted to the profession by a keen love of animals: a disciple of Gamgee, and a pupil of the late Prof. Fergusson, whose practice in Dublin he took over many years ago. Mr. McKenny was certainly an enthusiast and a hard worker; he was well-known, and enjoyed a high class reputation all over Ireland. He loved his work and had an honest ambition to ever in the fore-front; and always upheld the dignity of the profession.

The genius of his inventive mind is well exemplified in the many useful instruments and appliances with which his name is identified. Good natured to a degree, Jas. McKenny was ever ready and willing to help and advise, and he would discuss, even with the youngest graduate, any matter of veterinary interest. Many well-known practitioners of to-day served their pupilage

with him.

There is no greater example of untiring devotion to the welfare of the profession than McKenny's record in connection with the V.M.A. of Ireland. Though a busy man, he acted as Secretary to the Association for about thirty years. He kept the Association alive in spite of adverse circumstances: he organised and attended meetings, and had filled every office of the Association with ceaseless energy. It is undoubtedly to his great efforts that we owe the existence to day of the V.M.A.I.

A lover of sport; he loved a horse, especially one that could trot on. For years he was identified with the trotting track, and owned some famous trotters, including the celebrated Pliny, the sire of many winners.

A kindly, genial soul, McKenny was a host in him-

A kindly, genial soul, McKenny was a host in nimself; he loved a discussion and a controversy, and had a store of knowledge about Dublin and its history. He was a well-known and respected citizen of Dublin, and had the honour of being elected, years ago, a Freeman of the City.

He has left a widow and an only son, who is a doctor in Hong Kong. They will mourn his loss. His many acquaintances and colleagues will miss him—they have lost a friend; and the veterinary profession is poorer by the loss of an honourable and worthy member.

P. J. H.

The late Carr Bey.

[Extract from *The Sudan Times*, dated, Khartoum, November 17th, 1917.]

We regret to announce the death of El Maralai F. U. Carr Bey, Principal Veterinary Officer, Egyptian Army, and Director Veterinary Depurtment, Sudan Government, which took place in London, on Saturday the 10th inst.

The late Lieut. Col. Frederick Ulysses Carr received his commission as Lieutenant in the Army Veterinary Department early in 1895. He served on the North-Western Frontier of India on the Mohmand and Tirah Expeditions in 1897-98, receiving the medal with two clasps.

He served throughout the South African war, in which he was severely wounded and promoted Veterinary Captain. Among other operations, he was present at Sanna's Post, and received the Queen's medal with six clasps, and the King's medal with two clasps.

Towards the end of the operations in South Africa he was attached to the Staff of the Remount Commission presided over by Lord Downe, and visited South Africa, Australia, and New Zealand with this Commission.

From 1903 to 1906 he was employed with the West

African Frontier Force in Northern Nigeria, receiving the medal with clasp.

He was seconded to the Egyptian Army in September, 1908, and received the Sudan medal with clasp for the operations in Southern Kordofan in 1910.

At the outbreak of the European War in August, 1914, Lieut-Col. Carr proceeded to France with the First Division taking part in the retreat from Mons, and the battle of the Marne and the Aisne. He was recalled to the Sudan in October, 1914.

While serving with the Egyptian Army he was granted the 4th Class Order of the Osmania, and the 3rd Class Order of the Nile, and was mentioned in despatches in connection with the operations in Darfur, 1916.

It was in his capacity as Director of the Veterinary Department, Sudan Government, that Lieut.-Col. Carr was best known in the Sudan, aad as such he was responsible for the export trade in livestock. The expansion of this trade during the last few years—from a value of about £E 40,000 in 1908, to that of £E 380,000 in 1915—is one of the most remarkable facts in the economic history of the Sudan to date, and it is no exaggeration to say that it was almost entirely due to the late Lieut.-Col. Carr's personal efforts and influence. He possessed in a remarkable degree the power of inspiring affection and loyalty in his subordinates and his death at the early age of 45 years is a distinct loss to the Administration of the Sudan.

VETERINARY SURGEONS AND CIVIC SERVICE.

Dear Sir,—Last week you told us, not quite directly, perhaps, that it is the duty of our members to accept civic duty where they are able to do so, and that honours which come to them in such positions are in a measure reflected on the profession. With that dictum I am in full accord, and Mr. T. Chambers, as the latest exponent, has my congratulations and good wishes.

Every man who is born to and accepts the benefits of a complex community owes service to that community: but

it does not fall to all of us to serve in the same measure nor in the same manner. I am enclosing a cutting from a Northern journal which records the long service of one of our members to a section of the community with which we are nearly concerned; and I would suggest that his work in that direction has been of national benefit, inasmuch as the economy effected in handling the aggregate of these goods in bulk instead of in detail is a national saving; in addition to the advantage and encouragement afforded to the users—the agriculturalists. It is satisfactory to see that his years of service are freely acknowledged in his own country.—Yours faithfully,

SOUTHTON.

Three notable agriculturists.—Mr. J. E. Brockbank, Heathfield, chairman, and Mr. J. M. Mullan, Plaskett Lands, vice-chairman of the Aspatria Agricultural Co-operative Society, have tendered their resignations owing to increasing age. The secretary is Mr. Hy. Thompson, M.R.C.V.S.. Aspatria. The length of service of chairman, vice-chairman, and secretary totals to 130 years, and the combined ages to 246 years. The three are spoken of by the members as fine specimens of the auld Cumberland yak (oak). Mr. Brockbank, a member of the Society of Friends, is a large and successful farmer; Mr. M'Mullan is one of four brothers who have each made a fortune farming, and Mr. Thompson is an originator of the society, the oldest in England, and has been called the Grand Old Man of Agricultural co-operation. A man of wonderful energy and versatility, he is the author of several works on veterinary science, a prolific writer, a ready speaker, a wit and raconteur with a genius for friendship that has won him the good will and respect of the Cumberland farming commu-When he gave veterinary lectures under the County Council he was unconventional enough to vary the proceedings with a song, and he threw so much wit and humour into his discourses that farmers for miles round came to hear him. He is an enthusiastic advocate of the application of salt to land as a means of killing parasitic life, keeping stock healthy and thriving, and obtaining crops free from disease."

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

	Anthrax			ot- Iouth ase.	Glanders.†		Parasitic Mange. ‡			Swine Fever.				
Peri		Ani- mals.	Out- breaks (b)	eaks mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.					
Gt. BRITAIN. Week ended Dec. 15				7	8				2	87	140	25	26	7
Corresponding week in	{	1916 1915 1914		14 10 13	15 10 15	1	1	1 2	1 2	48 31	95 46	34 15 10	53 76 78	22 207 375
Total for 50 weeks, 1917			407	463			24	55	2415	4484	500	2059	863	
Corresponding period in	{	1916 1915 1914		556	622 622 755	1 56 24	24 702 124	46 48 94	115 84 281	2021 839 1530	4443 1798 2642	318 216 203	4164 3852 4221	9093 16229 38717

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Dec. 18, 1917

+ Counties affected, animals attacked:—Worcester 2

Excluding outbreaks in army horses.

IRELAND. Week	ended Dec	. 8							Outbreaks	19	1	
Corresponding Week	in 1915			•••	:::				1 1	11 8 8	5 2 2	55 32 24
Total for 49 weeks, 19	17	•••	3	5			1	1	41	395	197	1127
Corresponding period	in $\begin{cases} 1916 \\ 1915 \\ 1914 \end{cases}$	 	3 2 1	7 2 1	 76	 957	 1	3 	60 68 75	426 386 462	299 238 187	1765 1339 943

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 12, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

THE VETERINARY RECORD

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1538

DECEMBER 29, 1917.

Vol. XXX.

THE CENTRAL V.S. AND INJURIOUS HORSE-FODDER.

We understand that the Central V.S. will hold a special meeting, to which all members of the profession are invited, at 7 p.m. on Thursday next, at 10 Red Lion Square. The object is to discuss the ill-effects upon London horses of the present food supply, and to consider what steps can be taken to bring about an improvement. The meeting may do good-perhaps great good-and it is hoped that a good number of practitioners outside the Society will attend it.

London veterinary surgeons well know the terrible damage the present supply of food-stuffs is doing among the working horses of the Metropolis. They are asked to join in an endeavour to effect an improvement; and there seems to be a genuine chance that this meeting may help in effecting one. There is every reason to believe that the troubles are solely due to unsatisfactory supervision of the present transport to London; and if that fact, and the amount of resultant damage, could be brought home to the authorities, a great improvement might speedily result. Horse owners are already making representations to the authorities; and, as regards one aspect of the question, veterinary support may be of great service to them. For that reason it is desirable that the meeting should be as representative as possible.

THE ROARING OPERATION.

Not much has been heard of this operation since the war began; but the abstract of Coquot's article which we published last week indicates that it is being extensively practised in the French army. Perhaps, later, we shall hear of our Army experience, which may enable us to judge the operation better than we could in 1914. At that time, much of the best veterinary opinion in England was still reserving judgment upon its value. Undoubtedly it was often followed by improvement, which in some cases was considerable; but it seemed possible that some of the improvement might have taken place without it. It was also possible that owners and operators were inclined to magnify the improvments that occurred; it was certain that the operation was not free from disadvantageous sequelae.

Two years' trial of the operation in the British Army before the war yielded results which, while far from so successful as some of those claimed in private practice, were also not nearly sufficiently numerous to warrant a decided opinion. The Army experience since then, when it is published, may go not able to make a post-mortem examination of the a long way towards settling the merits of the filly which died. operation.

AZOTURIA OR FORAGE POISONING?

I was particularly interested in Mr. Pratt's note in your issue of December 1st, and Mr. Brown's in that of 22nd. I will record a few cases, in reverse sequence, beginning with the more striking ones.

Case I. On the evening of Nov. 23rd, I received a wire from a country vicar asking me to see his filly. She had been out day and night with another filly, eight months old, and was found in the afternoon lying down and showing signs of pain,

On arrival, about 9 p.m., I found a two-year-old hackney filly lying stretched in a stall. Respirations 50, pulse approaching 90 and weak, temperature 104°. The mucous membranes were very injected. There was profuse perspiration and great distress, she made occasional struggles, but was now unable to rise, though she had been on her feet at short intervals up to within an hour of my arrival. There had been no passage of fæces nor urine since she was found ailing. Rectal examination revealed hard balls of mucus-covered fæces. I passed the catheter and found the urine coffeecoloured and flaky.

Prognosis. Very unfavourable.

Treatment. Cathartics, enemas, sedatives.

I was passing that way early next morning and called in. The Vicar informed me that the patient had died in the small hours, but that he was glad to see me as the younger filly was now ill,

Case II. This was a weakly pony foal and had done badly on pasture. She now looked dejected, and laid "full length" most of the time. When urged to rise she would nibble at a little hay, and very shortly lie down again. Breathing was rather hurried, but there were no signs of great distress. Pulse weak, temperature 103°. No evidence of defaccation during the night. Evacuation of the rectum and bladder showed exactly the same conditions as in the case of the other filly.

Prognosis. Doubtful.

Treatment. Cathartic, enema, and oxalic acid every hour. I failed to see the case the following

day (Sunday).

On the Monday morning, Nov. 26th, she had greatly improved. Free evacuations, clear urine, appetite fair. Respirations normal, temp. 101.1°, pulse 60, Appearance generally bright for one in such low condition.

I then prescribed a long course of Quinine sulph. and Liq. ferri perchlor. I have seen her at intervals since up to ten days ago, and she continued to im-

prove in condition.

Owing to lack of assistance I was, unfortunately,

Case III. On Oct. 31st, a half-bred two-year-old filly was found on the field apparently in pain and barely able to rise. I was sent for but was unable to attend at the time. I instructed them to take her home (about half a mile distant) and make her comfortable. I attended in the evening. They had experienced great difficulty in getting her to walk home. She was now lying flat in the box.

Symptoms. Identical with No. I, except that she just managed to get on her feet occasionally for a

few minutes, and went down again.

Treatment. Cathartic, sedative (chloral), enema,

catheterisation.

Next morning there was little or no change, but less distress—due, probably, to the action of sedatives. Treatment was now changed to oxalic acid every hour for eight hours, then every two hours. She rallied considerably towards midnight, got up and commenced to eat hay. She dropped dead at 3 a.m.

Autopsy. Disappointing. There was no striking lesion. Pale coloured clot in the heart, congestion of the kidneys, and dark coloured urine in the bladder.

Case IV. A roan hackney mare, 4 years old found down on the field on the morning of Nov. 16, 1910. She grazed in a field close to the yard, and the owner endeavoured to get her into the stable. She dropped down on the yard, and was hauled into a box on an improvised sleigh. She showed the same symptoms as Nos. I. and III.

Treatment. Cathartics, sedatives and diuretics. She died that night. No autopsy was made.

Remarks. These cases are particularly interesting to me, and I am grateful to Messrs. Pratt and Brown for recording their cases. Had they not done so, I confess that, owing to pressure of work and little assistance, I would probably have been tempted to let these go unrecorded—for the present at least.

Four conditions were common to all my cases :-

- (1) They were all females.
- (2) They were out day and night in winter.
- (3) None were plethoric animals, and they grazed on rather poor land.
- (4) The pasture had a number of oak trees in or around it.

In the case of Nos. I. and II. the pasture is notorious in that every fresh bovine animal which is turned on to it suffers from "red-water."

What can be the cause and nature of this condition? In view of our present meagre knowledge of the pathology of azoturia, would it not be reasonable to suggest that these animals suffered from a form of this disease?

Would ingestion of acorns cause the blood to become surcharged with proteids and bring about the lesions—tannin causing the constipation?

Carnaryon.

L. W. WYNN LLOYD.

THE AVENUE OF INVASION AND THE BEHAVIOUR OF THE INFECTION OF CONTAGIOUS ABORTION IN THE UTERUS.

At the fifty-fourth annual meeting of the American V.M.A., held in Kansas City in August last, Prof. W. L. Williams presented a paper upon this important subject. This was followed by a discussion, and supplemented the next day by a clinical demonstration upon five sterile cows. The following is a condensed summary of the author's views,

which are of considerable interest.

Williams points out that "any intelligent effort at the control or cure of contagious abortion must be based upon some knowledge or belief regarding the portal by which the infection enters the uterus and the manner in which it acts therein," and then proceeds to discuss various views upon this question. He regards the portal of entry of the bacillus into the organism as yet unsettled, and the exact subsequent course of the infection as still more uncertain. He points out that, granting that the bacillus enters the body by the mouth, it is not known at what point in the digestive mucous membrane it penetrates into the blood stream to cause intra-uterine infection, or indeed that it so penetrates the mucous membrane at all. It may, on the contrary, multiply and persist in the alimentary tract, escape in the faeces, enter the genital tract through the vulva, and thus gain the uterine cavity without having entered into the blood stream at all. A further possibility is that, after escaping with the faeces, it might enter the udder through the teat canal, and thence enter the blood stream and gain the uterus.

Further, if it be granted that the bacillus reaches the uterus through the blood stream, it is still not clear how it escapes from the blood stream into the uterine cavity and into the foetus and its annexes. The results of M'Fadyean, Stockman and other workers emphatically negative the view that it penetrates the placental filter. M'Fadyean and Stockman found the bacillus first in the uterochorionic cavity, second in the feetal fluids and feetal digestive tube, and last in the feetal blood. They frequently found it in the utero-chorionic space and not in the fœtal blood, while it was never found in the feetal blood without also being present in the fœtal fluids and in the utero-chorionic space. Penetration of the placental filter by the bacillus would inevitably reverse this order of appearance.

There are two methods by which the bacillus may plausibly be supposed to invade the utero-chorionic cavity—through the uterine mucosa from the blood stream, and through the cervical canal from the vagina. From the density and apparent nonsecretory and non-excretory character of the bovine uterine inter-cotyledonary mucosa (which seems to be an unusually dormant protective membrane), Williams considers it very improbable that Bang's bacilli or any comparable organisms ever escape through it from the blood stream into the uterine cavity. The placentar areas or cotyledons, when not in physiologic contact with the fœtal placentæ, are much more suitable avenues for the passage of infection; but the period during which they are

open for the purpose appears to be limited. Here Williams indicates and emphasises the importance of some points regarding which most writers on

contagious abortion say nothing. In the non-gravid uterus, the placentar areas apparently only permit the passage of bacteria during menstruation—that is, for a period of only from twelve to twenty-four hours in each oestral cycle of about twenty-one days. During this period it is possible that bacteria circulating in the blood stream may escape into the uterine cavity with the menstrual blood, become domiciled in the uterine cavity, and prevent conception or destroy the fertilised ovum. The more frequently menstruation takes place, the greater is the probability of infection in this manner; and this seems to explain the clinical observation that, the younger the heifer is when mated, the more likely she is to conceive. In addition, the menstrual blood poured into the uterine cavity affords an increased nutrient supply for any bucteria already present there; and thus each menstruation arouses and stimulates any

existing infection anew.

There is also a second epoch during which invasion of the uterine cavity from the blood-stream is feasible. During the second half of pregnancy, some of the feetal and maternal placentæ about the internal os uteri commonly become detached; and a variable amount of hæmorrhage-perhaps represented by a blood-clot scarcely larger than a pea, but often amounting to several ounces of blood coagula-takes place into the uterine cavity. The process is unaccompanied by macroscopic evidences of inflammation, and is so common that its presence may be regarded as the rule in cows. Almost always, according to Williams, if the uterus is sealed, some hæmorrhage is recognisable just at the os uteri internum after about the fifth month of pregnancy. Common and well-nigh universal though this hæmorrhage is, Williams regards it as a pathological process, and adds that it deserves study. Like menstrual hæmorrhage, it may permit the escape of bacteria from the blood stream into the uterus, or provide fresh nutrient material for bacteria already existing there.

The other possible avenue of entrance for the abortion bacillus is the cervical canal. Apparently infection may readily invade the vagina and cervix through the open vulva, and, if the cervical canal is open, may gain the uterus. It should also be remembered that the vagina and cervix may be invaded from the blood stream, and invasion of the uterine cavity through the cervical canal follow. In this connection Williams points out that the vaginal and cervical mucosæ are more active generally than the inter-cotyledonary uterine mucosa, and that, therefore, invasion of the vagina and cervix from the blood stream is quite as possible as

invasion of the uterus from that source.

Two definite conditions must be considered in studying invasion of the uterus through the cervical canal—the open, and the sealed canal. The cervical canal is termed open-even though its opposing mucous surfaces may be in immediete contact -so long as it is not hermetically sealed. In bovine study the behaviour of the infection in the uterus physiological pregnancy the canal becomes her-immediately after abortion or premature birth, or

metically sealed within a few days after fertilisation, by a tough, firm substance apparently emanating from the cervical mucous membrane. This uterine seal appears to be a highly efficient bacterial barrier. Once it has formed there is no evidence that bacteria can pass through it, and no strong evidence that bacteria ordinarily found in the genital tract can dissolve it or break it down. On the other hand, clinical and post-mortem ocservations alike yield indisputable evidence of the inhibition of the formation of the uterine seal owing to the presence of infection in the cervical canal. Intense chronic purulent cervitis is very often found in sterile cows, and assumes various forms. Sometimes there is visible intense inflammation of the cervical mucosa about the os uteri externum; sometimes there is sclerosis of the mueous bases of annular cervical folds which displace the cervical canal and render catheterisation of the uterus difficult or temporarily impossible; and sometimes old, caseated pus is encountered in the canal, or when the uterine catheter is introduced to the os uteri internum and a stream started through it, the first substance to return is a small quantity of muco-pus. Such cows are usually obstinately sterile; but occasionally one may become pregnant, for the abundant mucus of cestrum may mechanically enable spermatozoa to elude the infection, reach the pavilion of the oviduct, and fertilise the ovum.

In a previous publication, Williams has shown that the fœtus constantly swallows its amniotic fluid from a very early period. It certainly does so as soon as hairs appear upon the skin; for fœtal hairs can readily be recognised in the meconium at that time. This fact, when viewed in conjunction with bacteriological researches, becomes of great importance. Hagan has shown that a bacillus belonging to the colon group is present in many nonpregnant bovine uteri, and that it is essentially as common in the utero-chorionic cavity of the pregnant uterus. He has also shown by abattoir studies that pathogenic organisms invade the amniotic fluid from the utero chorionic space (not through the placental filter) and, being swallowed by the fœtus, are stored up as an integral part of the meconium, where after birth (and sometimes before) they play a vital rôle in calf scours. Associated with the colon organism Hagan also finds an organism not yet identified, which reveals some of the characteristics of the Bang bacillus. Such infection prevails widely both in pregnant and non-pregnant cows, and does so whether the cervical canal is sealed or open.

In 1914 Williams pointed out that whenever the exudate of contagious abortion existed in the uterus it was most voluminous about the os uteri internum, and then radiated forward toward toward the apices of the uterine horns. Since that time, in several instances, he has observed the exudate in the apices of the horns, notably of the non-pregnant horn. Thus three possible foci of infection may be recognised—the os uteri internum, and the apices of the two horns. Of these, the first is by far the most important.

In all cases where Williams has been able to

uterine seal was absent, or its integrity destroyed, there was a well-marked and characteristic metritis is always most intense at the os uteri internum, from which point it radiates towards the apices of the horns with constantly decreasing intensity. When the uterine seal is intact, on the other hand, there is no visible metritis. The exudate of contagious abortion may be present in cubic centimetres or in litres, but the metritis of contagious abortion is absent; and there is nothing to suggest that, had the cow not been slaughtered, she would have aborted.

Three distinct clinical pictures may be observed in connection with death or expulsion of the fœtus. In the first, desiccation or mummification of the fœtus occurs. The fœtus perishes within the sealed uterus, does not undergo putrefaction and is not expelled, but desiccates and remains as an inert body, inhibiting cestrum indefinitely. In this case the uterus is sealed, the exudate of contagious abortion is present, the intra-uterine infection causes a copious inter-placental hæmorrhage detaching the feetal sac completely from the uterus, the hæmatome and fœtus desiccate, the cervical canal remains sealed, and no abortion occurs. Here the infection in the uterus, in the presence of a physiologic uterine seal, though it indirectly kills the fœtus, does not cause its expulsion.

The second clinical picture differs markedly from the first. The formation of the uterine seal is inhibited, or, if the seal is formed it is destroyed. The infection advances slowly from the os uteri internum forward, the healthy anterior portion of the uterus reacts to the irritant, and the uterine contents are expelled. The fœtus may be still alive while the cervical portion of the feetal sac is necrotic; and

the fœtus may be born alive. The third clinical picture differs from the second by giving evidence of a greater virulence of the infection. The uterine seal is absent, and the intrauterine infection is virulent and spreads rapidly, causing necrosis of the uterus, emphysema of the fœtus, and inability to abort. Here abortion does not take place, because the entire uterus becomes paretic or necrotic, and is unable to expel the fœtus. Ultimately the emphysematous fœtus may cause a rupture of the necrotic uterus with rapid death of the patient, or the uterus may adhere to the rumen and the fœtus slough into it.

These studies, which conflict with no facts recorded by others, record that there are three foci in the uterus from which the abortion infection spreads—the os uteri internum and the apices of the two horns. From the standpoint of their ability to produce serious disaster in the pregnant uterus, the foci in the apices of the horns play a minor rôle. From the standpoint of sterility, the infection in the apices of the horns and in the continuous oviducts is of great importance. From the standpoint of both abortion and sterility, the in-

in cases where abortion appeared imminent and the ly observed uterine disasters. Williams believes that the most common disasters caused by contagious abortion in the uterus are due to the infection —the metritis of contagious abortion. The metritis having gained a habitat within the uterus, or rather within the cervical canal, prior to conception. By its presence the infection either inhibits the formation of the uterine seal or disturbs its formation so as to render it an insufficient barrier against invasion. It is possible that intra-uterine infection sometimes breaks down the seal after it has formed;

but proof of this is wanting at present.

The original portal of entry of the abortion infection into the system requires further study; but at present the evidence points towards two great sources. The first of these is intra-uterine infection of the fœtus, and the second feeding of the new-born calf with contaminated milk. As regards the second source, Williams points out that the largest known volume of the Bang bacillus occurs in the uterochorionic space of the gravid uterus. Thence it escapes by the vulva before, during, or after abortion or parturition, along with other important uterine infections, and flows down over the tail and escutcheon to reach and contaminate the udder. The calf may swallow the infection from the exterior of the udder when sucking, or the milker may introduce it into the milk afterwards given to the calf. Schroeder and others have found the Bang bacillus in the milk within the udder; but Williams thinks that clinical evidence at present indicates that this has far less peril for the calf than has the infection which emanates from the genital canal and flows down outside the udder.

There is good clinical and experimental evidence that, once the fœtus or calf has become infected, the infections remains permanent, vacillating greatly in degree. It is especially significant that large groups of heifer calves, suffering severely from scours and pneumonia, abort very largely at the first pregnancy. Apparently, while the system is depressed and wavering under the virulent bacterial invasion of scours and pneumonia, the infection shows an affinity for the genital system, where it remains until breeding age, ready to cause disaster.

As regards other bacterial intra-uterine infections, Hagan has traced the course of infection well in the case of a bacillus of the colon type. He recognises the bacillus in the utero-chorionic cavity of the cow immediately after calving, and in the rumen and rectum of the new-born, apparently healthy calf. The same is true in the abattoir. He finds bacilli first in the utero-chorionic space, next in the feetal fluids, then in the feetal digestive tube. Clinically, the calf bearing alimentary infection at the time of birth frequently dies in a few hours from acute sepsis, and yet more commonly develops calf scours and arthritis. Later, the survivors suffer from chronic arthritis, pneumonia, or chronic scours.

Basing his opinion on the facts and conclusions above stated, Williams now advises that contagious abortion should be controlled by systematic hygiene of the genital apparatus. This should be "not for fection of the cervical canal and at the os uteri a day or year, but a constant permanent plan by internum plays the major rôle, The destruction of which it is aimed to breed from only those animals the uterine seal, or the inhibition of its formation, having as clean sexual organs as it is possible to is essential to the development of the more commonscent and maintain." The genitalia of all breeding cattle should be carefully inspected, animals with evident genital disease should be excluded from breeding until recovery, and any part of the genital system in either sex (here it should be noted that Williams believes the bull to be an important disseminator of contagious abortion) which is or is believed to be dangerously infected, should be disinfected as far as possible. For some years past, to prevent ante-natal infections, Williams has advised disinfection of the genital tube prior to breeding. He also advises disinfection of the genitals after parturition, with the double object of protecting the new-born calf from infection due to contamination of the outside of the udder from genital discharges, and of promptly restoring the maternal genital system for the next breeding.

The disinfection of the genital tube is necessarily imperfect. The anatomical disposition of the uterus and cervix renders their complete disinfection impossible. The technique has been greatly improved, but is still in its primary stage. Clinically it rarely succeeds, because it is rarely applied skilfully, conscientiously, and perseveringly; but, whenever it has been so applied, it has been successful. Sterility has been checked, the abortion rate has been lowered, metritis and retained feetal membranes have been greatly diminished, and calf scours and pneumonia satisfactorily repressed.—Abstract from the Journal of the American Veterinary Association.

VICIOUS CIRCLES IN PATHOLOGY.

The enclosed letter was handed to me with the query "Do you think your Veterinary journals will publish this letter?"

My reply was, "I may safely say all the Editors of the Veterinary press welcome correspondence from medical men on matters of professional interest."-Yours truly,

Friarn House, Bridgwater. W. Scott.

To the Editor, " Veterinary Record."

Sir,
During recent years considerable attention has been paid by students of human pathology to what is known as the "vicious circle," i.e., a morbid process by which the reactions provoked by a primary disorder aggravate such disorder.

In the ordinary course of disease reactions are beneficent and tend to restore the organism to health. Where, however, a "vicious circle" is present, the vis medicatrix naturae is perverted and may even become a vis devastatrix.

The injurious influence of this morbid process may operate in three directions :-

(a) The aggravation of disease, (b) The destruction of organs, (c) The termination of life,

and a large part of therapeutics consists in breaking the "circle."

The study of this morbid process contributes to the accuracy of diagnosis and treatment, and assists the practitioner in unravelling the tangled processes of disease.

If your readers have met with examples of the "vicious circle" in diseases of the lower animals, I shall be grateful to be informed of them.—Yours faithfully,

JAMIESON B. HURRY, M.D.

I read a fortnight ago your translation on soap in the treatment of wounds. This is by no means new. I have washed dirty wounds with soap solution and sugar for some years with very good results, and I think if those medicos added sugar to their soap they would obtain even better data. Briefly, soap with sugar makes an ideal decalcifying solution, activates the flow of healing lymph, and does not retard phagocystosis, the two cardinal ideals in wound therapy.

SOAP AND SUGAR FOR WOUNDS.

W. Scott.

P.S. I also make up a simple and excellent pessary for wounds, metritis, cystitis, etc., of soap, sugar, Ac. boric. Cheap, simple and useful.

A NOTE ON JHOOLING IN CAMELS,

By H. E. CROSS, M.R.C.V.S., D.V.H., A.SC., Camel Specialist, Sohawa.

Jhooling, or Jhoolak as the disease is sometimes called, is a contagious disease of camels-manifesting itself in the formation of local tumours, hot and painful, of a fibrous character and terminating in suppuration and raw patches.

Distribution. The disease is widely distributed throughout the Punjab; it is not so common in the Lahore district as in the Jhelum and Rawalpindi districts. It usually occurs in the cold weather but is met

with occasionally in hot weather.

Etiology. The casual organism has not yet been

isolated, though it is probably a fungus.

Pathogenicity. Inoculation of emulsion of the lesion into horses, cattle, buffaloes, dogs, guinea-pigs and rabbits does not produce the disease.

If portions of the lesion are rubbed on the skin,

whether the skin be scarified or not, no Jhooling lesion is produced in any of the above animals.

Horses, buffaloes, and cattle kept in contact with camels suffering from Jhooling do not contract the disease.

When portions of a Jhooling lesion are rubbed on the scarified skin of healthy camels the disease develops after a few days. In only one case did the disease develop when a portion of a Jhooling lesion was rubbed on the unscarified skin of healthy camels.

Healthy camels kept in contact with camels suffering

from Jhooling contract the disease rapidly.

Symptoms. The first symptom is a hot, hard and painful swelling varying from 1 to 5 inches in diameter, usually on the neck, hindquarters or testicle, but the lesions may occur in almost any part of the body. After a few days the swelling becomes very irritating, and, if situated in any part of the body that the camel can reach with his teeth, he will gnaw at it leaving a raw patch. In all cases after the lapse of some time suppuration takes place and finally the wound heals, leaving a small white patch which lasts for several months. As a rule several lesions are found on a camel suffering from the disease and the camel loses condition. The lesions take a long time to heal and if situated in any part that comes in contact with the *palan* (saddle)

the camel has to be put off work.

Anatomical changes. The tumour consists of fibrous tissue finally undergoing suppuration. Examination of the pus reveals streptococci: no staphylococci have been observed. In camels suffering from Jhooling, on which I have made post-mortems, no lesions have been observed in the internal organs.

Treatment 1. The best treatment, and one which gives very satisfactory results, is the following:—A strong red Iodide of mercury blister should be applied

Westfield, Reading.

and after three days washed off with soap and water. The diseased areas should then be excised, and finely powdered permanganate of potash applied. The permanganate of potash must be well rubbed in and not simple dusted on. Three dressings at intervals of four

days are usually sufficient.

Treatment 2. Sometimes good results are obtained by excising the lesion and then applying pure phenyle or carbolic acid. The following day the wounds should be thoroughly washed with water and then treated with Black wash (30 grains calomel, half an ounce of glycerine, 11 ounces of tragacanth mucilage, and lime water to make 10 ounces of lotion.)

Camelmen apply boiling ghee to the lesions and "fire" round the edges of the lesions with the idea of preventing the lesion spreading. This treatment, however, cannot be considered satisfactory.

If the lesions are on the testicle, or in situations where they can be reached by the tail, the tail must be

Prevention. Camelmen are well aware of the contagious nature of this dieease. If they have a camel suffering from Jhooling lesions in the neck this camel is always placed first in the string of camels; whereas if the lesions are on the hindquarter the camel is tied

Should a case of Jhooling occur amongst a number of camels, it should be at once isolated from all other camels. The remaining camels should be very carefully examined and divided up into lots and not allowed to mix. Should more cases be found they should be at once isolated. The disease spreads very rapidly amongst camels and causes a great deal of trouble, so that every effort should be made to prevent the disease from spreading, by careful examination and segregation. In camels suffering from Jhooling, lesions in different stages are met with—healed up lesions, raw patches and swellings.

No camel should be bought if small hard white spots are observed on the skin (they undoubtedly represent healed up Jhooling lesions) without careful inspection

for raw patches and swellings.

(Agricultural Research Institute, Pusa. Bulletin No. 72.)

REPORT ON THE HEALTH OF THE CITY OF MANCHESTER. 1916, BY JAMES NIVEN, M.A., M.B., LL.D.

This issue contains no veterinary report—the veterinary staff are working as they can: it is therefore confined to report [abridged] on the milk supply, and it speaks well for the organisation that so much has been accomplished under the conditions.

MILK SUPPLY.

There is, at the present time, a shortage of cheese, although it may be expected that precautions will be taken to prevent this from recurring next year. The great rise in the price of cheese will, of course, tend to reduce the supply of milk apart from the effect of an increased scarcity of winter feeding stuffs, and it may be necessary to take definite steps to secure an adequate supply of fresh milk and to supplement this by dried milk and by unsweetened condensed milk.

The retail price of milk in 1914 was: Summer, 3½-4d. per quart; Winter, 4d.-4½d. per quart.

Order from the Board of Agriculture November 15th,

1916, limited the price to 6d.

Middle of March, 1917, a new Order was issued making April a winter month. Until a new Order is issued the price is 5½-6d. per quart. (The retail price at

the time of going to press is 7d. per quart).

The rise in prices bore very heavily on poor persons, and there can be no doubt that young children were county authorities, and it may be that they are un suffering very severely When the School for Mothers the same difficulties as we experience in Manchester.

came to the rescue and determined to sell milk for children attending the Centres at 4d. a quart. This was

in November, 1916.

No special effort was made, nor would it have been of much avail, to procure milk of special quality for the children attending the Centres. Chemically, at all events, the milk is of good quality, and the mothers are taught at the School for Mothers how to handle it. The Health Visitors continue to instruct mothers to scald all milk to be given to young children—that is to

say, to bring it to boiling point.

The tuberculosis free herd supplying the hospitals had in the end of 1916 become infected, and the milk, though very rich chemically, was not satisfactory otherwise. So far as tuberculosis is concerned, with the assistance of Major Brittlebank, A.V.C, the tuberculosis free condition of the herd was restored. Tuberculosis of the udder was found in one of the City cowsheds, which has since

been disused.

By reference to the tuberculosis section it will be seen that the sampling of milk for tuberculous infection has been partially resumed. The difficulties in procuring a veterinary officer were finally in some measure met by the courtesy of the Markets Department, who permitted the services of one of their veterinary assistants to be used on one day a week for visiting cowsheds and examining cows. Mr. J. F. Dixon's obliging temper and useful work deserve recognition, especially as he has resigned his off time whenever called upon. But for various reasons the work has been much interrupted, and the necessary number of visits has not been paid to the farms found to be giving tuberculous milk. Still, a partial control has been exercised over outside farms, and out of 321 farmers' milks tested during the year no fewer than 38 were found to be infected with tuberculosis—that is to say, 11.59 per cent.

The lowest percentage of tuberculous samples reached was in 1909, when it was 5.79. In 1910 it ascended

abruptly, and has continued high ever since.

In the interpretation of such a table the first doubt which presents itself is whether the table represents the

milk supply or the methods of the sampler.

This ascent may have been emphasised by difficulties as regards feeding stuffs and by the selling off of young cows, but these factors are not the cause of the rise. There is no reason to suppose that the policy of keeping the herd young, so strongly advocated by our veterinary surgeon, suffered any reversal prior to the war; quite the contrary. The uncertainty produced by the Order of the Board of Agriculture may have had something to do with it, relaxing the vigilance of the farmers. There is one other factor which one turns to, viz., the possibility of an unfavourable differentiation in dairy farms contracting with Manchester milk dealers as compared with London and perhaps with other localities. This is a difficult matter to settle, and one can only refer to the annual reports on the Health of London.

As the veterinary surgeon has been unable to revisit the farms found to be giving tuberculous milk, whether a cow with tuberculous udder was or was not found on the farm, these have been referred to the Medical Officer of Health for the county in which they were situated, with all the particulars in our possession, and information has also been given to the District Medical Officer of Health. Valuable assistance has thus been obtained. On the whole it has been possible to secure supervision over the disposal of cows with tuberculous udders. The case in which we have not been able to do all that we could have wished is where an Order has been made requiring the farmer to cease supplying milk for consumption in the City, but suspended to give the farmer an opportunity to get his farmstead put in better condition. These cases we have had to leave to the County authorities, and it may be that they are under

In the same manner we have not been able to secure veterinary inspection of our own cows within the City, a duty in which difficulty was already experienced, while Major Brittlebank was in Manchester, owing to the time consumed by visits to farms outside. It will, therefore, be understood that the veterinary supervision was practically withdrawn in 1916. As regards sampling the supply from the Manchester farms, this is much more difficult than the sampling of supplies coming from without and arriving at Manchester railway stations. The control of internal farms practically rests on veterinary examination of the cows.

The question presents itself whether there is any advantage in having milk farms in the immediate neighbourhood of the City. There can be no hesitation as to the answer. It is of the greatest advantage that milk should reach the consumer as soon as possible after milking. The supply of a large town should come as far as practicable from within its boundaries or from a limited area outside. The freshness of the milk is an important element in its value to the consumer. This must be the answer until arrangements have been made for keeping the milk in summer cooled down from milking point to the point of delivery to the householder. It is a further advantage that milk should be produced within the City, since then alone it is possible to control the conditions under which it is produced.

An estimate was made in 1902 of the milk daily consumed in the City, and the figures arrived at were:—25,500 gallons arriving by railway, 1000 brought in by cart, 3000 produced within the city—total 29,500 galls. This, of course, is exclusive of condensed and dried milk.

A fresh estimate was made by the Manchester Milk Dealers' Association in May, 1917, as follows:—30,500 gallons arriving by rail, 500 by motor, 2200 produced within the City—total 33,200 galls.

The Manchester and Salford Milk Dealers' Association

The Manchester and Salford Milk Dealers' Association estimate that in the six months ending April 30th there was a falling off in the supply estimated at 15 per cent. on recent previous years. The cause of this decline is not altogether the increased price. There has been a greatly increased demand for milk to manufacture condensed milk, and the manufacturers have a great advantage over the milk dealers in respect of transport. Probably, also, the manufacture of whole dried milk is increasing. There is, also, a greatly increased demand for cheese.

The number of children under five years of age is about 80,000, and, allowing each a pint of milk a day, 10,000 gallons should suffice for their needs. This is to be regarded as a first claim on the milk supply

be regarded as a first claim on the milk supply.

The great needs of this part of the supply are that it should be produced under clean conditions and be quickly transported to the consumer without any intermediate manipulation. As it is impossible to secure freedom from tuberculous or other infection, all children's milk should be scalded; but this requirement cannot be ensured, and it is therefore necessary to maintain as much control over the milk as is possible under present conditions, in which there is a shortage of labour on the farm, shortage of veterinary and sanitary staffs, and shortage also in the laboratory.

The year 1916 witnessed three movements in Man-

The year 1916 witnessed three movements in Manchester for the improvement of the milk supply. Late in 1915 and early in 1916 a movement was initiated by Councillor Ernest Simon for a cleaner milk supply. Mr. Simon had been to see the farm of Mr. W. J. Buckley, of Basingstoke, who is much impressed with the Score Card system adopted in America for the inspection of farms, and also with the system of grading and certifying milks, whereby a pure supply is obtained for children. There appears to be no doubt that the highest grade of milk in America is better than any milk supplied here.

On January 26th, 1916, a Sub-Committee of the Sanitary Committee was appointed to consider the proposals put forward by the National Clean Milk Society, and Mr. Simon was appointed Chairman. Interviews were held with the Manchester and Salford Milk Dealers' Association on the subject, and also with Prof. Delépine and Mr. James Sadler, Secretary to the Cheshire Milk Producers' Association. Mr. Buckley was invited to expound his views in Manchester, and gave a very interesting address.

The two points which he chiefly urged were:-

1. Inspection of farms on the Score Card system, which, by way competition, he believes to have a lovelling up effect on the farmer.

2. The grading of milk supplies, so that young children may have the benefit of a certified milk supply. Under the Milk and Dairies' Act provision is made whereby the Local Government may authorise the use in connection with the sale of milk of the designation "Certified milk," and prescribe the conditions thereto applying. It is to be hoped that this regulation may come into effect.

The Manchester and Salford Milk Dealers' Association were favourable to the Score Card system of inspection, but doubtful of the possibility of grading milk

Professor Delépine was consulted chiefly on the proper basis for a proposed form of contract with farmers supplying milk to the Corporation and to milk dealers. He stated that experiments carried out by him had shown that milk of a high standard of bacteriological purity could, with certain precautions, be obtained which would keep for a sufficient length of time. It was thereupon resolved that he should be asked to make further investigations into the quality of the milk sold in Manchester and report on the whole subject, also upon certain investigations carried out on the production of an improved quality of milk.

The third impulse came from the Royal Agricultural Society's Show, which was held in Manchester last year. The prizes given by the Society entailed a good deal of work, and yielded interesting results as regards the quality of milk produced by the competitors, which was notably in advance of the average quality of Manchester milk. But they gave little indication of the conditions under which the normal supply rests.

The method adopted has been to take the specific gravity with a hydrometer, estimate the fat by means of a centrifugal machine, and from these figures calculate the solids, not fat, by the formula.

Sp. gr. -1000 + per cent. fat = solids not fat.

The accuracy of the hydrometer was checked on several occasions by direct weighing in a specific gravity bottle, and the centrifugal results by the Werner Schmidt method. The results agree closely, except that with milks abnormally high in fat the results are somewhat on the low side.

Fat. Solids not fat. Total solids. 3586 p.c. ... 8736 p.c. ... 12322 p.c.

A comparison is given between the figures obtained in the Royal Agricultural Society's Competition from May 22nd to June 22nd, 1916, from 144 samples from 67 competitors and 76 samples from milkshops during the same period:—

 Milks.
 Fat.
 Solids not fat.
 Tl. solids.

 Rl. Agric. Show Competition
 3.65 p.c.
 9.03 p.c.
 12.68 p.c.

 Milkshops
 3.27
 8.84
 12.11

SAMPLES FROM MONSALL HOSPITAL AND BAGULEY SANATORIUM.

Samples. Fat (average). Solids not fat. Total solids. ... 4.070 p.c. ... 8.925 p.c. ... 12.995 p.c.

There are two milk Inspectors appointed to inspect the dairies and milkshops in Manchester, who divide the City into north and south. Their function is to inspect all new milkshops applying for registration, to find out unregistered milkshops, to make a report on each of them, and to see that the regulations are complied with in their districts. The greater amount of the milk used in the City is supplied from small milkshops, containing a miscellary of articles, mostly groceries. It is almost impossible, in many of them, to avoid some accumulation and scattering of dust. The milk is kept on the counter, usually in a bowl, which in general there is no effort to keep cool. It is, however, kept covered by clean board or by muslin weighted. When pressed in the matter of cleanliness, the shopkeepers inform us that the worst offenders are the customers, who bring unclean jugs which have contained beer or other articles, and their services have been enlisted to prevent these occurrences as far as practicable. It is much to be desired that the sale of milk should be restricted to certain shops, in connection with which provision is made for the cleaning and suitable storage of utensils.

Such is the primary function of these two Inspectors, and they only been put to the inspection of cowsheds in default of veterinary inspection. Nevertheless, they have done much useful work, although, as already stated, it is found that we cannot at present get structural specifications carried out. At the same time it is desirable that such specifications shall be proceeded with, and issued, so that they can be proceeded with

when the staff is resonstituted.

The observations are summarised in 9 clauses, of

which three are here quoted

(1) The milk sold in Manchester is of fairly high chemical quality. (2) Though much cleaner in appearance than it was 20 years ago, it is still, on the average, far from clean, and therefore far from fresh in so far as the essential feature of freshness is concerned. (3) There is much tuberculous infection in the milk at present, which has extended into the Mauchester cowsheds.
(9) It is worthy of consideration whether the Corporation could not produce milk in and near Manchester for the use of young children.

Notwithstanding numerous difficulties in the way of such examinations, 321 samples of farmers' milk were examined, of which 38 (11.83 p.c.) were shown biologically to contain the infection of tuberculosis. somewhat lower than in 1915, but is still very high. As already explained, the action taken in counection with tuberculous milk has been crippled by shortage of staff. It is also possible, on other grounds, that the proportion of tuberculous milks may have been higher than the

figures indicate.

While acknowledging our indebtedness to the Markets Committee, who have allowed the services of Mr. J. F. Dixon during one day in the week, unless some pressing need for his services in their department supervenes, it must be recognised that much more could be accomplished if we had the whole time of a Veterinary Surgeon engaged on this work.

Tuberculous Milk.

During the year 386 samples of milk have been collected by the Food and Drugs Inspectors in connection with tuberculosis. Of this number, 354 were collected at the railway stations, and the remaining 32 from carts coming in by road. The number of farmers represented in the total is 321. Of these 207 reside in Cheshire (24 sent tuberculous milk): 45 in Derbyshire (4): 23 in

Staffordshire (3): 43 in Lancashire (3): 3 in Yorkshire,

Westmoreland, and Cumberland.

Thirty farms were visited in consequence of milk found to contain tubercular infection; also two visited as result of notification. Eighty-one specimens were taken from individual cows as result of following up station and other samples: of these, 18 from individual cows proved to be tuberculous. Eighteen udders proved to contain lesions. Two were taken from individual cows as the result of notification or otherwise than owing to the presence of tubercle bacilli in mixed milk.

From particulars supplied by farmers, 195 of whom replied to our queries, we find that on these farms there

were 4217 cows.

The Biology of Twins.

Whether it be from motives of economy, or as an offset to its unapproachability, or whatever be the cause, the "modest and retiring" armadillo of Texas, with its nine zones of body armour (Dasypus novemcinctus) is distinguished above other animals by the fact that from a single fertilized ovum it habitually gives birth to four young. And these four young are "identical" and invariably of the same sex. Around the study of this phenomenon, which he and Dr. J. T. Patterson have continued for the last eight years, Prof. Horatio Hackett Newman, now of the University of Chicago, has built up a useful volume—The Biology of Twins (Mammals): The University of Chicago Press, 1917, 8vo., pp. 179,

with index, 1.25 dols. net.
Prof. Newman has brought together the observations of himself and others contained in many scattered papers upon the polyembryony of Dasypus and allied forms, and describes the embryology of the condition in studiously clear and simple language. With this as a basis, he proceeds to discuss the biology of twinning as it occurs in man and other mammals. As is by now generally acknowledged, among animals which usually produce single young, two orders of twins, triplets and quadruplets may show themselves, namely, the production of paired or plural offspring from plural eggs (fraternal twins), and the production of paired or plural offspring from a single fertilized egg or zygote (duplicate twins). As to the relative frequency of these two orders in the author quests the analysis of LP. Nichels in man, the author quotes the analysis of J. B. Nichols, of some 700,000 cases of twin births, from which it appears that "nearly one-half of all same-sexed twins are monozygotic." Such twins are strikingly like each other, are always of the same sex, and, as Professor Wilder has shown, the identity extends to the palm and fingerprint patterns, although here, curiously, whereas in some cases there is an almost complete mirror imaging of the two palm patterns of the two individuals, the left hand of y corresponding to the right hand of x, in other cases this reversal occurs to only a limited extent, but then always in connexion with the pattern of the index fingers. Newman demonstrates a parallel condition in connexion with the bands of armour of the armadillo, the first band taking the place of the index finger in man; and as the demonstration is absolute that in the Texan armadillo the twinning is monozygotic, any last doubts as to the existence of monozygotic twins in man must disappear.

Newman shows clearly that the four embryos in Dasypus do not originate each from one of the four primary blastomeres of the fertilized egg; nor does he accept Assheton's theory of budding. His preparations point to a fission or duplication of the apical point of the growth zone, with formation of secondary growing points as the cause of twinning, that is, to the origin of these

the same

One of the most interesting chapters in the book is that upon the "freemartin" which, ever since John Hunter, has been a source of keen discussion. Newman rejects Dr. Berry Hart's Mendelian hypothesis, holding that it is based on error, since bovine twins are not monozygotic. Bateson seems to have fallen into the same error. Professor F. R. Lillie has recently solved the mystery by a study of abundant material obtained from the Chicago stockyards (Science, N.S., 43, 1916). He shows that in cattle a twin pregnancy is almost always the result of fertilization of an ovum from each When these are of different sexes and there is fusion of the two chorions in utero with vascular anastomosis, since the male reproductive organs develop earlier than the female, the reproductive system of the female is largely suppressed, apparently as the result of antagonistic hormone action due to the circulation of the male blood in the female, whereby the latter bebecomes and remains sterile from arrested sexual development, "The results are analogous to Steinach's feminization of male rats, and masculinization of female rats by hetero-sexual transplantation of gonads into castrated infantile specimens."—Brit: Med: Jour:

Anthrax Prosecution at Dumbarton.

In the Dumbarton Sheriff Court, before Sheriff Macdiarmid—John Gilchrist, land valuator, 81 Hope Street, Clasgow, agricultural adviser to H.R.H. Princess Louise, and James Wood, under-manager of the Home Farm at Rosneath, were charged with having in their possession or under their charge at the farm named a diseased or suspected bullock or carcase within the meaning of the Anthrax Order, and with failing with all requisite speed to notify the police of the same. Pleading not guilty, they were defended by Mr. Nicol F. Cameron, writer, of Messrs. Clark & Cameron, writers, Glasgow. Mr. H. L. Yeudall, Procurator-Fiscal, prosecuted.

The circumstances of the case as stated were that this animal, a prime bullock, turned unwell on the farm, and was slaughtered and despatched to the dead meat market in Glasgow, where one of the inspectors suspected it to be infected with anthrax, and that view was confirmed later by the Board of Agriculture. The respondents said that the bullock was treated for a chill, and after its slaughter the death in their opinion was due to a knot or twist in the bowels. Neither Mr. Gilchrist nor Mr. Wood had had any experience of anthrax. It had never been known about Rosneath, and they pleaded that what they did was done in good faith and without the least suspicion that there was any contravention of the Order in question.

Prof. John R. Dewar, veterinary inspector for Edinburgh, for the respondents, spoke of the difficulty of diagnosing anthrax in the living animal. Having heard the evidence that day, he did not think there was anything suspicious in all that had taken place, or anything to cause him to believe that there was a duty on the received to retify the authorities

accused to notify the authorities.

Mr. Alexander M'Kay Trotter, the veterinary inspector to the Glasgow Corporation, for the prosecution, said that anyone accustomed to handling carcases or expert with anthrax would have his suspicions immediately aroused over this carcase. Stockowners had a clear duty under the Order, and right throughout the whole Diseases of Animals Orders to take every precaution, and it was a simple duty for them to safeguard themselves; they had only to notify the first constable, who was bound to notify the veterinary inspector, who in turn was bound to proceed immediately to the place. In the whole circumstances of this case he considered there had been gross negligence.

The Sheriff said that the case was of some import- of carbohy ance, and he proposed to consider it. He therefore bumicoids.

delayed his decision, and on Saturday last delivered his judgment. He said that Section 20 of the Anthrax Order provided that the disease of anthrax was to be presumed, unless repondents could prove that they had not the knowledge or could not, with reasonable diligence, obtain it. In this case he thought it was clear that accused could with perfect ease and reasonable diligence have obtained the knowledge that there was anthrax in this carcase before they sent it to Glasgow. As Mr. Wood had been acting under orders, the Sheriff dismissed him with an admonition, but in Mr. Gilchrist's case he imposed a fine of £10, with the alternative of ten day's imprisonment, instructing that £5 of the fine be paid over to the prosecutor towards his expenses. Mr. Buchanan, writer, Dumbarton, asked that a case might be stated for appeal.—The Scottish Farmer.

Glasgow Veterinary College (Incorporated).

A meeting of the governors of the Glasgow Veterinary College was held within the secretary's chambers, 105 St. Vincent Street, Glasgow, on Wednesday, Sir Hugh Shaw Stewart, Bart., C.B., in the chair.

Sir Hugh Shaw Stewart was unanimously reappointed chairman, and Mr. J. Campbell Murray, vice-chairman, of the board of governors for the current year. The meeting expressed deep regret at the deaths of Sir David C. M'Vail and Mr. John Pollock, two of the governors.

Professor Gaiger was appointed interim director of studies. It was reported that everything possible was being done to expedite the equipment of a bacteriological laboratory at the college in connection with the special research work which is to be undertaken by Professor Gaiger at the college, at the instigation of the Board of Agriculture and the Secretary for Scotland, into braxy and other sheep diseases.

It was decided that an appeal should be made to flock-masters throughout the country to give their assistance both financially and by supplying examples of the disease, and a committee was appointed to consider the best means of making the appeal.—The Scottish Farmer.

Maize Germ Meal for Cattle.

Maize germ meal is amongst the most suitable and useful kinds of concentrated commercial foodstuffs for feeding to dairy cows. Taking its high feeding value into consideration, it is a comparatively cheap food; in fact, it is one of the most economical artificial feeding-stuffs that can be used on the dairy farm.

Maize germ meal, also sometimes termed, germ of maize meal, consists of the ground-up germs of maize grains, and is a by-product which is obtained in the manufacture of starch from maize. Maize germs contain a high proportion of nitrogenous matter, while also fairly rich in oil constituents. It exerts a very favourable effect upon the secretion of milk, due in the main to the comparatively high percentage of albuminoids (or nitrogenous matter) which it contains. It is a perfectly wholesome and safe food to use for cow feeding purposes, even when fed in fairly large quantities, and it proves thoroughly palatable to the cows. From 3-lb. to 4-lb. constitute a suitable daily allowance of this foodstuff for a cow in milk. A pound or two more than the latter quantity can, however, be safely fed if desired, but better results in milk production are usually obtained when a mixture of two or more of these foods is fed than when an equally large ration of only one kind is provided.

Maize germ meal is frequently believed to be very similar to maize meal, but the two foods are entirely distinct in their feeding value and chemical composition. Maize meal is very starchy, containing a high proportion of carbohydrates, and it has a low percentage of alternative in the content of the cont

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

					Anthrax		Foot- and-Mouth Disease.		Glanders.†		sitic		Swine Fever.	
Perio			Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.					
Gт. BRITAIN. Week ended Dec. 22				10	11					62	129	21	22	1
Corresponding week in	{	1916 1915 1914		15 10 13	20 10 20	3	42	1 1	2 1 5	42 40	91 105	27 22 15	75 61 77	36 225 361
Total for 51 weeks, 1917			417	474			24	55	2477	4613	521	2091	864	
Corresponding period in	{	1916 1915 1914		538 566 710	642 632 775	1 56 27	24 702 166	46 49 97	117 85 286	2063 879 1530	4534 1902 2642	345 238 218	4239 3913 4298	9119 16434 39078

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.
(1) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Dec. 25, 1917

Excluding outbreaks in army horses.

IRELAND. W	eek ended	Dec.	15							Outbreaks 4	12		
Corresponding Week in	(1916								1	28	5	52
	leek in	1915			3.10						12	5	10
		1914								1	5	3	8
Total for 50 week	s, 1917			3	5			1	1	45	407	197	1127
	(1916		3	7			T		61	454	304	1917
Corresponding pe	eriod in	1915		2	2			1	3	68	398	243	1349
		1914		1	1	76	957			76	467	190	951

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 17, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

ARMY VETERINARY SERVICE

War Office, Dec. 11.

The following Dispatch has been received by the Secretary of State for War:—

General Headquarters, Nov. 7, 1917.

Sir,—I have the honour to submit a list of names of those officers serving, or who have served, under my command during the period February 26th to midnight, September 20/21st, 1917, whose distinguished and gallant services and devotion to duty I consider deserving of special mention.

I have the honour to be, Sir, your obedient servant,
D. Haig, Field-Marshal, Commander-in-Chief.
The British Armies in France.

STAFF.

Capt. (actg. Maj.) W. Ascott; Capt. (actg. Maj.) A. N. Foster, F.R.V.C.S.; Maj. (temp. Lt.-Col.) C. B. M. Harris, D.S.O., F.R.C.V.S., Res. of Off; Capt. (actg. Maj.) J. J. Hilliard; Capt. (temp. Maj.) A. L. Horner; Capt. (temp. Maj.) J. L. C. Jones; Maj. W. Ludgate; Maj. R. C. Matthews; Maj. F. A. S. Moore; Col. (temp. Brig.-Gen.) J. Moore, C.B., F.R.C.V.S.; Capt. (temp. Maj.) C. E, Neill; Lt.-Col. (temp. Col.) A. C. Newsom, C.M.G.; Maj. (actg. Lt.-Col.) W. H. Nicol; Maj. (actg. Lt.-Col.) A. Olver, C.M.G., F.R.C.V.S.; Capt. (actg. Maj.) F. R. Roche-Kelly; Capt. (temp. Maj.) J. Scott-Bowdon; Maj. J. R. Stevenson; Lt.-Col. (actg. Col.) W. J. Tatam, C.M.G.; Capt. (temp. Maj.) R. Tindle; Maj. L. M. Verney, F.R.C.V.S.; Lt.-Col. (temp. Col.) F. W. Wilson, C.M.G., F.R.C.V.S.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Dec. 22. REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. R. L. L. Hart, E. Afr. Vety. Corps, to be temp Capt. (Oct. 8, sen. from Sept. 1, 1914) (substituted for the notification in the *Gazette* of Nov. 2).

The following casualties are reported:—
ACCIDENTALLY KILLED—Capt. W. Huston, attd. A.S.C.
WOUNDED—Capt. J. Martin, attd. R.F.A.

The A.V.C. Comforts Fund.

Dear Sir,—I should be very grateful if you can find space in your next issue for the enclosed extracts from a few of the many letters I have recently received in acknowledgement from O.Cs. of Veterinary Units, and men themselves, expressing their appreciation of the gifts sent out by the Comforts Fund. I feel sure it will please, and also reward, those who have so generously knitted and contributed these gifts to know they have thereby given such enjoyment to our men on active service.—Yours truly,

ADELAIDE M. Moore. 20 Parsifal Road, Hampstead, N.W. 6. Dec. 22nd.

"The papers and parcels from the A.V.C. Comforts Fund have arrived regularly and have been very much appreciated by the men of No. 7 Mobile Vety. Section, especially as they are the only papers they see. I take this opportunity of thanking you and your co-workers on behalf of No 7, for all you have done for them. Only a few days ago a large parcel of socks, books, stationery, games, etc., arrived and was distributed, and when I tell

you that we had just got back from a month of strenuous word, where the men had no opportunity of getting a change, you can well imagine how much the gifts were appreciated."

"Please accept the best thanks of the N.C.Os. and men of my section and myself for your parcel of comforts which arrived safely yesterday, the contents were greatly appreciated by everybody. The weekly parcels of papers arrive regularly and are always looked forward to, especially now that winter has come and the evenings are very long. I have asked the men if they would like to suggest any change in the papers, and they all agreed that the salection was just what they wanted. We have been having rather a hard time the last few weeks, and the gifts of socks arrived at a most opportune time."

"The parcel from the A.V.C. Comforts Fund arrived quite safely, and I have distributed the articles amongst the men, and on their behalf I thank you very much indeed. The parcel arrived at a time when the gifts were more than usually acceptable and are greatly appreciated."

An A.V.C. Sergt, writes:—"Many warm thanks for the parcel received on 25th. I can assure you the contents will be much appreciated by all in this section."

An A.V.C. Private writes:—"Just a few lines to thank you very much for the comforts you sent to this section and of which the boys are very glad, especially this time of the year. Wishing you a merry Xmas, and great success to the Comforts Fund."

Subscriptions received since list published Dec. 8.

Contribution from No. 2 Vety. H	los	pit	al:			
proceeds of entertainment	(f	r. 2	00)	£7	6	10
Mr. W. H. Bloye				1	1	0
Mr. W. Trigger (F.)				2	2	0
per Maj. Greenfield: D.D.V.S. an	d	Ve	tv.		-	
Öfficers 3rd Division				5	5	0
Maj. Ringe				1	1	0
Mr. G. H. Leach (F.)				2	-	Ö
Mr. Alfred Over				ī		0
Mrs. Abson				2		0
Mrs. O'Rorke				ī		0
per Mrs. Rutherford: Mr. Jarratt (I	101	nefe	ord)	1	1	0
Capt. Clarke Glover	- '	0.	,	2	0	0
Mr. R. E. L. Penhale				-	10	6
Mrs. Chadwick (Stirling) and friend	Is			9	10	0
Mr. A. B. Forsyth	,			1	1	0
Mrs. Holmes (collected):				1	1	U
3.5	1	1	0			
	i	ō	Ö			
Mr. J. O'Dwyer	-	10	0			
Mrs. Wallace		5	-			
ar Tr Tr 1	2	2	-			
Miss Eileen Holmes	~	2	0			
Billio Bilota Holmes			U	5	0	
				9	U	U

Parcels received from :-

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Meetings, Second Wednesday, May, Oct. and January

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1539.

JANUARY 5, 1918.

VOL. XXX.

FOLLICULAR MANGE.

One of the several interesting portions of Capt. Armfield's informative paper to the Central V.S. (p. 273 et seq.) relates to bovine follicular mange. It appears that follicular mange is "very prevalent" among cattle in North-western Rhodesia, and has recently been reported as prevalent in Nyasaland also. This is the first time it has been reported as The disease being at all common in any country. has been seen in Europe and in America; and Bugge has observed it in two herds of cattle in which over 70 out of 480 animals were affected. Still, its occurrence in cattle has hitherto been regarded as quite exceptional. It is possible that it may be common also in other countries as yet comparatively little explored by veterinary science; and it is certain that, wherever it is prevalent, it constitutes a serious economic danger. Not only does it damage or destroy the hides; but, once fairly established, it appears to be as resistant to treatment and to run the same ultimately fatal course as in the dog. This gives Capt. Armfield's communication considerable importance. There may soon be need for a closer study of follicular mange than has been apparent hitherto.

It has to be remembered that the etiology of follicular mange is not yet definitely settled. It is classic to regard it as due to demodices, and to base diagnosis upon the microscopical demonstration of these parasites. Yet in some species of animals, as in man, demodices sometimes occur without causing trouble; and the work of the present century affords grounds for the belief that, in those animals in which the parasite does appear, the real pathogenic factor is the additional presence of the Staphy-lococcus pyogenes albus. That is Gmeiner's view; and the same conclusion was independently reached by Mettam, who successfully treated canine follicular mange by autogenous vaccination. Not very much work has since been done on this line, possibly because the subject has never appeared to be one of economic importance; but it may fairly be said that the disease is still a scientific problem, and that there are few conditions for which autogenous vaccination better deserves a careful and extensive trial. It is certain that the old methods of local treatment by acaricides, upon which much work has been done, have all proved more or less unsatisfactory. It is true that from the classic view of the of the illness, to encounter the streptococcus in the etiology of follicular mange, it was only to be ex- blood. pected that the inaccessibility of the demodices would render local treatment very difficult; but no view is correct.

TWO CASES OF TETANUS.

Case I. A well-bred mare, cast from the army, had run away a fortnight before and sustained some cuts about the legs. A few days before I saw this animal the owner had noticed her going stiffly; he thought it might be lockjaw, and some knowledgeable man told him exercise was good, so he galloped her daily, and said after the first minute or two he had difficulty in holding her.

The symptoms of tetanus were well marked, but she had sufficient movement in the jaws to allow her to take enough food to keep her alive. She was in a loose box with open windows, in a slaughterhouse where daily killing was carried on.

Treatment was Chloral hyd. ziv. twice daily in the mash. She made an uninterrupted recovery, and was at work in six weeks.

Case II. Bay cart mare, eight years. No perceptible wound or lameness; showing well-marked tetanic symptoms. On the third day swellings developed between the fore legs and under the chest. On the sixth day there was a strong jugular pulse. Owner would not agree to slings, as the animal lay down frequently, and could rise without difficulty. She ate practically all day, but very slowly, and was making some improvement; but got down on the night of the 15th day, and was slaughtered.

Post-mortem showed a decolorised clot extending into the arteries, and extensive valvular disease of the heart.

This mare was a very inconsistent worker; some days she continually refused to pull, and on others worked well. I am inclined to believe that the condition of the heart was the cause of it.

ERNEST MORGAN, M.R.C.V.S. Faversham, Kent.

STREPTOCOCCI IN EQUINE DISEASES.

A. Pricolo published a suggestive article upon this question in Il Moderno Zooiatro of 1911. The streptococcus frequently exists in the blood of the horse, and is easily demonstrated by the simple examination of microscopic specimens or by experimental animal inoculations. Nevertheless, in the diseases caused by the streptococcus, death may supervene without it being possible, at any period

Pricolo has found that the streptococcus is always localised by pre-existing lesions. He has enone can now feel assured that the classic etiological countered it in the extremity in one case of synovitis of the extremity, in the intestine in one case in which that organ contained a large number of

ascarides, in the coxo-femoral joint in a case where that joint was the seat of a traumatic arthritis, and in other such instances. The presence of the streptococcus in pleuro-pulmonic exudates and in the lesions of the genito-urinary mucous membrane in equine infectious paraplegia may be explained by this predilection. In other cases, especially in experimental infections, the localisation results from a purely mechanical phenomenon. The conglomerations and balls which the streptococcus forms in liquid culture media are detained in the finer capillaries. Localisations in the eye, brain, and kidney may be explained in this latter manner. has once entered into the blood, the streptococcus in those previously mentioned. does not appear to have any especial election for this or that tissue, or it would be better to say that all the tissues are equally suitable for its growth.

The injection of streptococci into the veins and under the skin provokes various troubles in the horse. Acquired immunity against a homologous streptococcus is never absolute, as the horses succumb to massive doses and even to merely exaggerated ones. In this last case predisposing causes which determine anaemia pre existing lesions, etc.) play an essential part.—(Revista de

Higiene y Sanidad Pecuarias).

Post-Seric Tetanus.

In the "Annales" of the Pasteur Institute of 1917, there is an article by A. Lumiere upon postseric tetanus—tetanus which appears after the preventive use of anti-tetanic serum. The author has had considerable experience of the subject; and has arrived at the following conclusions:-

1. Preventive injections of anti-tetanic serum do not possess an absolute and unlimited prophylactic

2. The duration of the immunity conferred by the serum cannot be fixed. It depends upon the relative proportions of toxin and of preventive serum in conflict in the organism.

3. Cases of post-seric tetanus appear to be due

to the two following principle causes:

a. Super-abundant secretion of toxin in the region of the wound, out of proportion with the dose of preventive serum injected. These are

cases of early post seric tetanus.

b. The liberation, by a secondary surgical operation or a traumatism, of tetanus spores latent in the tissues, when the activity of the anti-toxin has become exhausted. These are cases of late post-seric tetanus.

4. Early post-seric tetanus may be avoided in the majority of cases by surgically cleansing infected wounds, carefully removing foreign bodies which they may contain, providing ample drainage, and repeating the injection of serum one or several

times.

5. Late post seric tetanus is also avoidable in more than half the cases, by injecting a fresh dose of serum at the moment of secondary surgical

6. Preventive sero-therapy sometimes impresses special characters upon cases of post-seric tetanus, more or less altering the symptomatology and clinical course of the disease.

7. In a certain number of cases of post-seric tetanus (15 out of 54 personal observations of the author) the injection of the anti-toxin has prevented the fixation of the microbial poison upon the central nervous system, limiting its action to the motor nerves of the wounded member. These cases of localised tetanus without trismus are much less grave than other forms of the disease.

8. In some other cases (13 out of 54) the bulbomedullary centres were only partially protected. The appearance of a tardy or incomplete trismus was then seen, accompanying the local contraction. The prognosis is these cases is less favourable than

When the anti-toxin has not preserved the central nervous system, trismus is most frequently (26 cases out of 54) observed from the commencement of post-seric tetanus. These are the cases in which prognosis is the most serious.

10. The treatment of post-seric tetanus appears to require the administration, as early as possible,

of large doses of serum.

Hitherto curative treatment does not exist; but but the symptomatic manifestations should be treated. Nothing can be done against permanent contraction; but paroxysmal spasms may be treated with sedatives, such as chloral or morphine, or with injections of sulphate of magnesium or per-borate of sodium. The author prefers the last-named substance, on account of its efficacy and feeble toxicity.—(Revista de Higiene y Sanidad Pecuarias.)

W. R. C.

THE CENTRAL VETERINARY SOCIETY. [NATIONAL V.M.A.—SOUTHERN BRANCH.]

An ordinary general meeting was held on Thursday, December 6th, at 10 Red Lion Square, London, W.C., the President, Prof. G. H. Wooldridge, occupied the

The following Fellows signed the attendance book:— Messrs. J. B. Buxton, W. R. Clarke, G. S. Heatley, H. D. Jones, W. S. King, J. W. McIntosh, H. J. Parkin, J. Rowe, W. N. Thompson, J. Willett, and Hugh A.

MacCormack, Hon. Sec.
Visitor: Capt. J. Malcolm Armfield, A.v.c. On the motion of Mr. McIntosh. supported by Mr. Thompson, it was agreed that the minutes of the previous meeting should be taken as read.

Correspondence. The Secretary announced the receipt of a letter from the Hon. Treasurer, regretting his inability to attend on account of the indisposition of his wife.

Mr. Perryman had written to the effect that he was

detained by important cases.

In response to the letter which he (the Secretary) had addressed to Prof. Macqueen, the latter had replied tendering hisr esignation. This resignation was formally accepted on the motion of Mr. McIntosh, seconded by Mr. Rowe.

A FEW DISEASES AFFECTING ANIMALS IN NORTHERN RHODESIA.

By CAPT. J. MALCOLM ARMFIELD, A.V.C.

Mr. Chairman and Gentlemen,-I hope you are not expecting a scientific discourse on Tropical Veterinary Medicine. I have striven rather to give you a brief account of several diseases not met with in the British



Unclassified Skin Disease in a native cow.



Unclassified Skin Disease.

Piece of hide almost covered with lesions.

CHINITY OF REPORTS

Isles, whilst mentioning the home diseases also found in Rhodesia; also to sketch the general conditions under

which stock are raised in the country.

I have lately returned from a three years sojourn in North-Western Rhodesia. This territory is bounded on the north by the Belgian Congo; on the south by Southern Rhodesia, the river Zambesi being the boundary line; on the east by German East Africa and Portuguese East Africa, and on the west by Portuguese West Africa; and so it is really to all intents and purposes Central Africa. Its degree of latitude is between 10° and 20° S., and 20° and 30° E. longitude. The district where I was stationed is nearly 2000 miles north from Cape Town. There is not what we should call a town in the whole territory: the capital, Livingstone, being merely a Government settlement, with a population of about 100 to 200 white people. Neither are there any made roads; in their stead one finds rough wagon tracks and Kaffir footpaths.

The seasons are the opposite to those in England. Our winter is your summer, and vice-versa. We get all the rain in our summer, and during the period from April to October—our winter, not a drop of rain falls. In the daytime only the lightest clothes are needed throughout the year, but for several months in the winter season it is rather cold at nights, and a fire in

one's house is very acceptable.

My station was 4000 feet above sea level, and at this height one does not experience any very excessive heat, except during the last six to eight weeks before the first rains. There are no hedges or fences—the cattle are herded by natives, and driven into kraals at night. (An African kraal is an unroofed enclosure, varying it structure from a mere circle of thorn branches to a post and wire erection). In the wet season the cattle often stand to their knees in mud and filth, a state of affairs which

the indigenous breeds of the country. These are much inferior to our European breeds in size, quality, and milk-producing capacity; but on the other hand, speaking generally, are far more resistant to the dieeases which attack imported stock. Farmers are now importing bulls from the British Isles and the Union of South Africa, in order to cross-breed with native stock, and thus produce an improved strain, and one more resistant to disease. Herefords are the most popular breed for importation, and there are now a large number of halfbreds and quarter-breds produced from these sires.

A well built cattle dip is an absolute essential on a Rhodesian farm; chiefly to eradicate the various species of ticks which infest all animals. Besides being the transmittors of various specific diseases, such as piro-plasmosis (red water), anaplasmosis (gall sickness), and East Coast Fever (Rhodesian red water), the ticks by the mere abstraction of blood can seriously impoverish, and even kill cattle, particularly in the dry season when food is scarce. For the sake of experiment, I once pulled off 400 blue ticks, engorged with blood to the size of an English pea, from a cow, and found on the following day I could easily strip off an equal number from the same animal. The dip also plays an important part in the prevention and treatment of various manges.

I often used to remark to the Medical Officer that each of our professions had one main piece of advice to settlers. His to advocate the regular taking of quinine ours to insist on the presence of a dipping tank. The patient who does not take quinine gets little sympathy from his doctor, similarly the farmer who will not build a dip is the bugbear of our profession.

SKIN DISEASES.

Follicular Mange. In The Veterinary Record of Nov. 17, 1917, in an article on Mange, by "F.R.C.V.S.." the following extract appeared:—"The demodex mite of man and of domesticated animals other than the dog does not call for a lengthy note, but I wish to report a demodex case on the horse associated with psoroptic mange of the horse." In the face of this statement, the serious menace from demodectic mange in cattle, which I am about to report, may be of interest. A similar state of conditions has recently been reported from

Nyasaland.
This troublesome form of mange was very prevalent amongst cattle on the farms in my district. moderately advanced it appears quite resistant to treatment, and finally causes death. In this respect it agrees with follicular mange of the dog in this country, or what is popularly called "red mange." The causal organism is the *Demodex folliculorum*, and can be organism is the Denotics Journal, and can be found very easily in great numbers in the pus from skin nodules of affected cattle. It appeared to me to be slightly different in shape from the canine organism, but I have found undistinguishable parasites in goats. I am informed that two microscopically proved cases of falliants many horses. follicular mange have occurred amongst army horses (somewhere in England) since the outbreak of war have never seen a case in the human subject, although the text-books report benign and easily curable cases.

You will all fully appreciate the difficulty in persuading farmers that moderately advanced cases are incurable, for, as in the dog, temporary cures may be often

Symptoms in cattle. The primary lesions take the form of spherical nodules about the size of a horse bean, in the thickness of the skin. These generally appear on reminds one of the condition of some of our horse lines in Flanders at the present time. With the exception of valuable imported stock, cattle are entirely dependent on the veldt for their means of support.

Cattle owned by European farmers are principally the indigenous breeds of the country. These are much paratively harmless causes. The disease is slow in protection of the skin. In this stage the disease is often unrecognised by laymen, or, if their attention is drawn to it, they attribute the condition to fly bites and other comparatively harmless causes. The disease is slow in protection of the skin. In this stage the disease is often unrecognised by laymen, or, if their attention is drawn to it, they attribute the condition to fly bites and other comparatively harmless causes. The disease is slow in protection of the skin. In this stage the disease is often unrecognised by laymen, or, if their attention is drawn to it, they attribute the condition to fly bites and other comparatively harmless causes.

> During the next stage these nodules increase in number until in many cases they are present in the entire skin of the animal. Finally they burst spontaneously and discharge a creamy pus-like substance. If one opens an unripe nodule a more or less firm kernel spurts out. The last stage is very repulsive and unsightly. The skin of the dewlap, shoulders, and round the eyes becomes denuded of hair, corrugated, and of a dirty

grey colour.

The character of the eruption and the course of the disease vary a great deal. The disease in many cases has been found to remain practically stationary in the primary nodular form for at least eighteen months, if not longer. Its course is accelerated by debilitating conditions, the most common of which are tick infestations and scarcity of food, as occur during the dry season in Rhodesia.

Treatment. As already indicated, "prevention is better than cure." New purchases should be carefully examined for the least sign of a nodular eruption, and as far as practicable clean cattle should be kept away from other herds. Regular dippings in dips of known strengths, disinfection of, and cleanliness with regard to cattle kraals, all tend to prevent an outbreak. If follicattle kraals, all tend to prevent an outbreak. If foll-cular mange is already present in a herd, separate the clean from the unclean and proceed to destroy all advanced cases, burning the skins of animals thus destroyed. The milder cases should be strictly segre-gated (i.e., herded in separate kraals by separate boys) and dipped weekly.

In the majority of herds there are only a few really bad cases, although very frequently a great number of mild ones, so that the farmer need not imagine he is going to cripple his resources by following this advice.

Curative measures take quite a secondary place; they are always dangerous unless strict isolation can be observed; it is advisable only when there are many quite moderate cases, which may be prevented from becoming too bad to work or cured sufficiently to render them fit for slaughter for native consumption. It is doubtful whether even mild cases can be so cured that a relapse

is impossible.

An unclassified disease of cattle. There is a peculiar skin disease, occurring in Northern Rhodesian cattle. According to reports it is very similar, if not identical with one found amongst cattle in Egypt, East Africa, and the Belgian Congo. Our department is at present investigating the cause, and there is reason to believe that very shortly the causation will be cleared up. Articles have appeared in the veterinary papers from the pens of Belgian officials in which the causal organism was given out to be a specific fungus.

The specimen here to-night was cut off a sun-dried hide, in which practically the whole surface was as per sample; and I think you will agree it gives a good example of the intensity of the ailment. The photograph also shows a typical distribution on the living

animal.

Symptoms. This particular eruption frequently is co-

existent with follicular mange lesions.

It is often observed across the loins, on the udders of cows, on the scrotum of the bull, and between the thighs, and takes the form of numerous small wat-like processes about a quarter inch in diameter. If one of these processes is pulled off a small hollow is left in the skin. It does not appear to interfere with the general health of the animal until the amount of skin affected renders its physiological function almost useless. Then the animal wastes and dies. In advanced cases a putty-like coating may completely cover the udder and teats, and this is too hard to be removed by the application of

Contagion. Experiments were carried out to ascer-

tain if the disease was contagious.

Powdered crusts from an infected animal were rubbed into the coats of clean animals, and also bound into others with bandages, but the disease was not transferred by these methods, although clean animals herded for several weeks with diseased animals became infected.

Treatment. Moderate success was obtained by softening the crusts with soft soap and warm water, and applying a solution of calcium sulphuret. This concoction is made by mixing the following ingredients:

Quick lime 1 lb. Sulphur 2 lb. Water 2 galls.

and simmering over a slow fire for three hours. The solution is applied while warm; but this procedure is

of no avail in advanced cases.

Some investigators decry the use of general dressings and hold that they tend to spread the disease from one part of the skin to another. They advocate picking off the individual crusts, and painting the raw surface thus obtained with 1 % picric acid solution.

PARALYSES.

Posterior Paralysis. This is an unclassified disease, which, since the year 1914, has cause a high mortality amongst imported cattle, in which the main symptom is progressive paralysis.

during 1914 when he was G.V.S. in this territory. the course of these investigations Major Chambers visited Sir Arnold Theiler and Prof. Hedinger, who were carrying out investigations on Lamziekte (Dutch for lame sickness) in the Union of South Africa. Subsequently he states that "Theiler and Hedinger were both of the opinion from the description, temperature records, photographs, etc., that we were dealing with a disease closely resembling Lamziekte; the great points of resemblance are the absence of organisms in the blood, the paralysis of the hind quarters, the absence of paraysis of the fore quarters, and the peculiar trembling of the muscles when an attempt to rise was made, the retention of sensation in the hind legs, and the noninterference with the digestion."

A few months ago I myself had the pleasure of spending nine days at the laboratory at Pretoria, and in discussing posterior paralysis with Sir Arnold Theiler he informed me that he is of opinion that posterior paralysis is a different disease from Lamziekte. The symptoms are different, chiefly the rapid course frequently observed in posterior paralysis. In this disease all power in the hind limbs has been known to have been lost in

At present, as in the case of lamziekte, the cause has not been definitely ascertained. After a considerable amount of research work Chambers very strongly suspects sarcosporidia. He states that he very rarely found well-marked sarcocysts exhibiting a well-defined capsule, and presumes that it is due to the non-possession of this membrane that posterior paralysis is so invariably fatal, as the possession of a thick membrane would tend to hinder the diffusion of the specific toxin which is said to be generated by the sarcocyst

Numerous sarcosporidia were found in the gluteal and gastrocnemius muscles, and pathological alterations due to these parasites were found to have taken place in the semitendinosus and other muscles of the hind limb.

In the case of lamziekte some very interesting grazing experiments were carried out, in which it was discovered that animals on certain grazings contracted the disease but animals fed on cut grass from these same grazings remained healthy. This pointed to an organism in the grass being the causal agent. No experiments of this nature have been performed with regard to posterior raralysis. This leaves open a large field of research to

future investigators of posterior paralysis.

Animals attacked. Imported bulls, their half-bred progeny, native cattle (rare instances in the latter).

Mortality. In the great majority of cases the disease is fatal, although I have seen animals which have appar-

ently completely recovered.

Symptoms. Gradually increasing paralysis of the hind limbs, while the general health of the animal remains normal. First the animal is observed to knuckle over at one or both hind fetlocks, and then to drag the toes. Later he rises with difficulty, often horse-fashion—fore-legs first. Later he cannot get up without assistance; finally he cannot get up at all, and so remains lying down, but otherwise in good health, bowels, temperature, urination, etc., normal. Bed sores appear, and eventually he gets into a poor condition, and if not destroyed death steps in as a happy release. Death may occur in a fortnight but usually the course of the disease is more prolonged, in some cases for several months.

On pricking the hind limbs with a pin no loss of feel-

ing is observed.

Treatment. Nothing has been found to prevent or cure this disease. Some have reported a certain amount of success from regular dosing with strychnine. I know of one case which made a recovery after a prolonged I am indebted to Major F. Chambers, A.V.C., for details of his investigations carried out in N. Rhodesia from the blood of a beast recovered from the disease.

EPHEMERAL FEVER, OR THREE-DAYS' SICKNESS IN CATTLE.

This is another form of paralysis occurring in bovines of N. Rhodesia, but it is of a much less serious nature than the preceding one. Mr. W. Kennedy, M.R.C.v.s., British South African Protectorate, gives a short résumé of the disease in the Veterinary Journal of March, 1915, and it is from this account and from several cases I have seen myself that the following short description is derived :-

The disease was first noticed in N.W. Rhodesia in 1906; a few months later it spread to the Transvaal and Natal. Cases have since appeared in the neighbourhood of Nairobi, British East Africa. Also, the natives in certain districts in Uganda have described a disease of cattle with apparently identical symptoms. The disease can be transmitted to a healthy animal by inoculating blood drawn from a sick animal. I have not heard any details as to the morphology of the organism, so presume it has been relegated to the ever-increasing class known as the ultra-visible organisms.

Symptoms. The chief symptom is paralysis of the limbs and consequent inability to stand. The disease comes on rapidly, and disappears with equal rapidity, the animal as a rule being on its feet again in about 48 to 72 hours; hence the popular name "three-days'

sickness.

There is a rise of temperature, in some cases to 106, accompanied by the usual symptoms, and a watery discharge from the mouth and nose. Practically, the only constant post-mortem symptom is enlargement of the lymphatic glands, particularly those in front of the sternum. (Kennedy.)

Sometimes many cattle are attacked simultaneously, which naturally greatly alarmed transport riders and others before the nature of the ailment was understood.

Mortality. Revovery is the rule, but transport oxen should not be inspanned for at least a fortnight after they have regained their feet; they are quite unfit for work earlier. (Kennedy.)

Immunity. Mr. Freer, of Cape Colony, states that in a large percentage of cases one attack confers immunity for a considerable time, but that numerous cases have been observed by him where cattle have been subject to two or three attacks. This writer also says the second attack is usually worse than the first.

Treatment. It is best to leave this entirely to nature.

If purgatives, etc., are given by the mouth great care must be taken, as there is often difficulty in swallowing,

probably due to semi-paralysis of the gullet.

CONTAGIOUS BOVINE PLEURO-PNEUMONIA.

During my residence in the country, I had the opportunity of observing an outbreak of contagious bovine pleuro-pnemonia, or lung sickness, as it is called by South Africans.

Too many animals were concerned to allow of slaughtering in-contacts. The programme we carried out with considerable success was quarantining affected areas, slaughtering visibly affected animals, and inoculating as many in-contacts as was possible in an extensive territory manned by a very small veterinary staff. We worked under extreme adverse conditions, and I, for one, was agreeably surprised to find that the disease was prevented from spreading to any great extent.

Capt. E. H. Brogan, who had the opportunity of going thoroughly into the question, informed me that he considered the procedure of extensive inoculation justified

by results.

Arsenical poisoning from dipping. In a country where a great number of cattle are regularly dipped it is not surprising to occasionally come across arsenical poisoning resulting from this procedure.

deaths of eight animals occurred. Cooper's cattle dip had been used. This fluid contains sodium arsenite together with other ingredients and is very universally used in N. Rhodesia. The herd consisted of about 100 head of cattle, and had been driven soms eight miles to the tank and taken home the same day after dipping. The owner declared that he did not observe any animals to drink the dip, and that they had been offered water beforehand.

Symptoms. Diarrheea of a normal green colour, in some cases exceedingly liquid. It never was particularly offensive. In some animals the fæces were slightly more firm than normal and coated with mucus. The animals showed distinct stiffness of one or both hind limbs, and a reeling gait. The eyes were glazed and sometimes the tissues around them were swollen. On taking the temperatures I noticed considerable inflammation of the rectum. The animals finally lay down with their head turned toward the side.

The temperature ranged from 1 or 2° below, to 2°

above normal.

In tropical countries one cannot place too much reliance on the thermometer. I have often observed normal cattle to have a temperature of 2 to 3° on hot evenings, particularly after having been chased in order to capture

Post mortem. The examination revealed intense in-flammation of the fourth stomach, the mucous membrane throughout was a deep claret colour, and the ingesta of a reddish hue. The other stomachs were normal, except in one case, where the mucous membrane of the rumen showed considerable inflammation and peeled off easily. The rectum was inflamed in stripes, reminding one of red and white candy sticks. The kidneys showed slight congestion. The liver was friable, particularly so in one case.

Conclusion. My diagnosis was:—Arsenical poisoning due to drinking either the dipping fluid itself or water from a small stream contaminated with dip. The stream in question was near the dipping tank, and the animals were allowed to drink from it before being dipped.

Another large herd of cattle had frequently passed through this stream after being dipped, and at the time in question the stream had become dammed a little lower down, and so was collecting arsenic from the limbs of recently dipped animals which had walked through it.

In South Africa stock owners are advised to keep the following solutions at hand in case of arsenical poison-

ing from cattle dips:-

(1) Liq. ferri perchlor. 3 oz.
(2) Carbonate of soda, 1 oz. Aquæ, ad 12 oz.
Instead of Ferri perchlor. 1 oz. of Ferri sulph. may be employed.

Directions. Mix the two solutions immediately before use, and repeat the dose every ten minutes until the symptoms disappear. Follow in two to three hours by a dose of Magnesium sulphate.

One needs to make a selection in writing a short paper. I have picked out those diseases with which I came most in contact, and which I considered would be of interest owing to their being out of the ordinary run.

However, it is as well to mention that the following important contagious diseases are encountered in N. Rhodesia:—Anthrax (chiefly in certain districts); Try-panosomiasis (confined to fly areas); Piroplasmosis and Anaplasmosis (chiefly in imported stock); Black Quarter (very rare); Rabies.

It may interest you to know that N. Rhodesia is at present free from the following formidable diseases:— East Coast Fever (Rhodesian Red Water); Rinderpest; Tuberculosis; Glanders; Foot-and-mouth disease.

East Coast Fever is causing considerable anxiety in S. Rhodesia and in the Union of South Africa. Rinder-I remember one particular occasion in which the pest has existed in German East Africa for a considerable time. The absence of tuberculosis is due to the open-air life enjoyed by Rhodesian cattle, and maintained by the careful testing of animals imported into the territory.

Pigs do well in Rhodesia, as there is no swine fever or tuberculosis in the country. Some farms have a great number of wild figs which eke out the porcine bill of fare. When maize, the chief crop, is cheap, it pays to feed it to swine. There is a bacon factory at Salisbury, S. Rhodesia, to which growers of pork can send carcases.

The native pigs are small, slow in reaching maturity, and have long noses. To make pigs pay one must have imported stock of the ordinary European breeds. I have seen a few cases of measly pork, which is not surprising when one bears in mind the number of natives in the territory, and their free and easy habits.

SHEEP.

There are no wool breeds in N. Rhodesia, although South Africa does a considerable export trade in wool. The Rhodesian sheep are the hair breeds, as the Persian. Lately they have done badly on most farms, owing to strongyle infection of the intestines and stomach. have observed the Strongylus contortus and no doubt

other European gastric strongyles are present.
Dr. Veglia, an Italian V.S., on Dr. Theiler's research staff at Pretoria laboratory, has just worked out the life

history of the Haemonchus contortus.

For some time we have been able to kill these parasites with dosing, but the knowlege of the life history will now enable us to dose at set intervals, and so get rid of all the parasites.

The principle of eradication is the same as dipping in cattle, the sheep collect the worms, are dosed with a special mixture which kills the worms, and so in course of time the sheep itself collects and kills off all the parasites.

I will not give more details, as these no doubt will shortly appear from the pens of the research workers

themselves

Sheep also in some parts are extensively infected with The settlers give the name bottle-jaw to tape worms. the resulting disease, as an oedematous swelling under the jaw is one of the symptoms.

HORSES.

Horses do not do well. On account of the prevalence of S.A. Horse Sickness it is about even chance whether an unsalted horse lives through the rainy season.

Dr. Theiler has discovered a very efficient protective inoculation against the disease in mules, and both he and Bevan have had fair results inoculating horses. Probably now complete success is only a question of time.

Donkeys in my district were very healthy, although id to be liable to contract horse sickness. There was said to be liable to contract horse sickness. quite a number kept, but I never saw or heard of a case of horse sickness occurring in this species.

Dr. Theiler asserts that everything points to the

mosquito as the carrier of horse sickness virus.

The chance of horses contracting this plague is greatly lessened by any means adopted to attack mosquitosfires in the stables, general methods for preventing mosquitos breeding, etc., and with a reliable inoculation against this equine pest, and the whole of South Africa will naturally be enormoufly benefited.

Epizootic lymphangitis. This disease is rather prevalent in the country, but not to the extent of horse sick-

ness. Hardy breeds do best (such as Basuto ponies) which are accustomed to an unhampered life, and can

make a good meal off the veldt.

I have kept horses on maize and what grass they could pick up-no oats or bran, and they have done quite well.

Shoeing. We never, or hardly ever, shoe our horsesjust rasp the feet down occasionally

In conclusion, gentlemen, I should like to remind you that this paper has been rather hastily compiled while on military service. I could have given more details had I not been separated from certain notes, etc., taken down while in Africa. But I hope I have been able to interest you for half-an-hour on veterinary matters in the vast territory which owes its name to Cecil Rhodes, and I thank you all very heartily for the patient hearing you have given me.

The President said that the paper was full of interest, but probably, in view of the lack of experience in this country of the specific diseases mentioned, would not evoke discussion. He extended a warm welcome to Capt. Armfield on behalf of the Society.

Some of the author's remarks confirmed the speaker in the belief, which he shared with many others, that indigenous cattle were more resistant to local diseases than were imported stock. It would be interesting to find out whether the immunity in question were natural or acquired. It was far more probable, at any rate in many cases, that the animals had been exposed to infec tion in small quantities from early life, and had so grad-ually developed immunity or tolerance against local infections. If that were so, the immunity was rather an acquired than a natural one. It was not impossible to establish the fact, but it might be difficult.

Capt. Armfield here suggested that experience seemed to confirm that view, as piroplasmosis was found in

native cattle].

Continuing, Prof. Wooldridge said that he had been interested to hear Capt. Armfield's account of follicular mange in cattle, and to see the photographs which had been shown. In other animals, such as the dog and pig, follicular mange was not common in this country There were a certain number of cases in horses, and probably it was more common with horses than was generally believed, owing to the circumstance that it was not looked for. He did not, however, think that in these instances the malady ever gave rise to such extensive lesions as were shown by the photographs exhibited.

The character of the lesion was apparently different in the case of the North Rhodesian cattle, causing nodules as big as horse beans. On account of the dissimilarity between this form of follicular mange and that occurring in dogs, suspicion, unless accompanied by investigation, would be likely to be disarmed. Apparently, there was no greater success in the treatment of the disease in the Rhodesian cattle than in dogs in this country- often temporary improvement is followed by disappointing recurrences; complete cures were rare

except in very early cases.

The other skin disease to which Capt. Armfield had referred was interesting, and the interest was intensified by the exhibition of the piece of skin. He would not hazard any suggestion as to the cause or treatment of the condition, but it was to be hoped that attention having been drawn to the subject, the cause would be elucidated, and also the treatment, He had been struck by the fact that the rubbing in or bandaging on to the skin of scrapings of the diseased matter would not reproduce the disease, while the circumstance that healthy animals were allowed to cohabit with diseased ones rendered the former liable, in a matter of six weeks or so, to show symptoms of the malady. This suggested the possibility of some intermediary bearer—a fly or tick—and the possibility of a causal organism undergoing some modification when passing through the intermediary bearer; the suggestion, however, had only imagination to support it.

The posterior paralysis mentioned by the author was a condition not met with in this country. To the

speaker, the chief point of interest was the suggestion that the condition was due to sarcosporidiosis sarcospores had been credited with producing serious muscular symptoms at various times, but sarcosporidiosis was not very uncommon here. In sheep it affects the muscles of the hind limbs and other parts, but the speaker was unaware that it is responsible for any serious symptoms—certainly nothing comparable to posterior paralysis. It was quite possible that the presence of sarcosporidia may have had nothing to do with the cause of posterior paralysis, although they may have been co-existent.

The treatment for arsenical poisoning quoted by Capt. Armfield was, of course, well known and provednamely, the administration of moist peroxide of iron freshly prepared. It was hydrated oxide, produced simply by the admixture of carbonate of soda and solution of perchloride of iron. When this preparation came into contact with the arsenic in the stomach it produced insoluble arsenite of iron, and was removed by the dose of Epsom salts recommended. The treatment was a very useful one, and the main feature about the suggestion was this-that it was presented to stock owners in a

way easy of application.

It was interesting to hear that there was a prospect of an effective preventive vaccine against Cape horsesickness—the bane of horseflesh in the horse-sickness zones; if a preventive serum or vaccine could be produced, it would go a long way in assisting the development of the country. The success which had apparently been obtained with mules should not be very difficult to obtain with horses. He hoped that such a success might be achieved soon. The speaker concluded by again thanking Capt. Armfield for submitting his in-

teresting paper.

Mr. J. WILLETT, after commenting upon the lack, in this country, of an experience similar to that brought forward by Capt. Armfield, enquired whether, in the case of inoculation for pleuro-pnemonia, the vaccines were prepared in the laboratory. Capt. Armfield replied that the vaccine was carefully removed with a cup from the chest of a dead beast, and used forthwith. A piece of worsted was dipped into the cup and threaded through the tail. The wool was not drawn through but left in.

Mr. Willett further enquired whether tetanus was often met with, and was told that occasionally tetanus was met with, but it was rather uncommon. In the course of several years' experience, Capt. Armfield had

only met with one case.

Capt. Armfield believed that the obscurity surrounding the skin disease would be cleared up soon; of course, not much research work was done. He had left a piece of skin with Dr. Theiler, who had started investigation, and would probably report before long. In answer to the President, he stated that the projections when pulled off left a cup-like lesion. He could not say whether the growth was epithelial or fibrous. Several They could be teased up in the fingers. The growths were he believed not fibrous, but were like warts. In reply to questions as to how far the mucous membranes or vulvæ of the animals were affected, he stated that he or vulvæ of the animals were affected, he stated that he had never seen the manifestations anywhere but on the external skin; they generally started between the hind legs, not in the vagina or perineum. The protuberances were like putty when set hard. Capt. Armfield had only met the disease in cattle, not in horses; but, of course, there were very few horses in the country. He did not think human beings were affected.

SPECIMENS.

The PRESIDENT exhibited three testicles from monorchids, to which he referred as Nos. 1, 2 and 3, according to size. The small one, weighing three ounces, was from a yearling colt, and was present in the inguinal to the Master Carmen's Association Fund for Horse

canal; he had no difficulty in removing it. The second case was that of a two year-old colt, from the same mare as No. 1 and by the same sire, the specimen having been present in the abdominal cavity. When first found, he had had difficulty in recognising it on account of its enormous size, about that of a child's head. When he had brought it to the inguinal canal he was able to secure it by the cord. It contained a large amount of liquid, which he had to remove by means of trocar and cannula. This liquid escaped through the inguinal canal, and he estimated that he had removed at least a pint. The weight of this testicle, minus the liquid, was 16½ oz. The third testicle was from a two-year-old colt. The animal had the same sire as the other two, and, unfortunately for the owner, all belonged to the same man. When first asked to operate on three rigs, he concluded that the owner had been making a collection of rigs, but it was an involuntary collection. The speaker had considerable difficulty in identifying this large testicle, quite as large as a man's head. It was some time before he found it, freely movable in the abdominal cavity, having a long spermatic cord, about half as thick as his wrist. Sometimes he touched the testicle with the back of his hand, and he thought it to be a portion of the large intestine; when he attempted to get his hand round it, so as to feel more of it, it disappeared, and he could only feel the large colon. The search occupied a long time, until, eventually, in despair, he made a sweep round the whole abdominal cavity, and found what he sought in the flank opposite to that in which he was operating. On bringing the cord to the inguinal canal he secured the testicle, pulling it towards the internal inguinal ring. He found it filled with fluid, and again resorted to the trocar and cannula, and estimated the liquid removed at about a quart. He was then able to extract it, through the inguinal canal. The weight of that testicle, minus the fluid, was 2½ lb., or 40 oz. avoirdupois. It was an interesting circumstance that all these animals were by one stallion, so that he wondered whether there was anything hereditary in the The matter was complicated by the fact that the yearling and one two-year-old came out of the same mare. He had asked the practitioner to make enquiries in his district to learn if any other colt by the same horse had been a rig. At present he had no news.

In reply to questions, Prof. Wooldridge stated that all three animals got up from the operation. Cases 1 and 2 made uninterrupted recoveries. Case 3, owing to the very large dilatation of the canal, necessitated the application of a clamp, which he put on after suturing the the skin. As there was no spare skin he did not want the clamp left on long, and it was, in accordance with his instructions, removed the next day. The horse went on well for six days, when the practitioner was called in and was teld that according to the skin was to the sk in, and was told that something was showing. Examination indicated a loop of bowel, and the practitioner put the horse down, returned the bowel and sutured. On the fifth day following the prolapse the horse died from peritonitis—apparently consequent upon the prolapse. Replying to Mr. Willett, Prof. Wooldridge stated that

the opening was wide: he had his whole arm in for a long time. It did not astonish him—considering that with a quart of liquid in it, the testicle was bigger than a man's head—that he had been unable to identify the testicle in the abdomen. He had been unable to get round it, and it almost resembled one of the flexures of

the colon.

HORSE AMBULANCE FOR THE FRONT.

On the motion of Mr. McIntosh, supported by Mr. J. Willett, the following resolution was put to the meeting and unanimously carried:—"That there shall be a reAmbulance for France, and that the next meeting of Council shall take place at an early date."

FOOD-STUFFS FOR HORSES.

After some informal consideration of the question of the food now supplied to horses and of the general condition and health of these animals, it was suggested that Mr. Jones be asked to collect any evidence available in connection with these matters, in order that they might form the subject of discussion at the next meeting of the Society, preparatory to approaching the authorities concerned with the provision and distribution of food for horses.

At the request of the President, Mr. Jones consented to collect, as far as possible, the evidence deeired, and to introduce a discussion on the subject.

The proceedings terminated with a vote of thanks, proposed by Mr. Willett, seconded by Mr. Rowe, and cordially supported by Mr. McIntosh and the President, to Capt. Armfield for the paper which he had communicated to the Society; followed by a vote of thanks to the President.

HUGH A. MACCORMACK, Hon. Secretary.

COCCIDIOSIS IN THE HORSE.

Sir

In a report of a meeting of the North Midland Veterinary Association which was published in *The Veterinary Record* for the 29th September last (No. 1525), page 131, there appeared an account of a case of alleged coccidiosis

in the horse.

A description of this case was given by Mr. S. E. Sampson, who stated that he had submitted a portion of the horse's intestine to Mr. H. R. Lewis, and that he (Mr. Lewis) had "found present on and in the mucous membrane large numbers of a coccidian parasite which had caused the disease from which the animal had suffered. The parasite is circular in shape and measures only 3 mm. in diameter, it penetrates the epithelial cells, which become detached and finally destroyed. There is a shedding of the dead portions, and this gives rise to the roughened appearance of the mucous membrane of the bowel." Mr. Sampson added that he believed the disease was very rare in horses in this country, and that at least very few if any cases had been recorded.

This opinion rather understates the facts, for so far as I am aware there is not on record anywhere a well-

authenticated case of coccidiosis in the horse.

Shortly after the report of this case appeared I wrote to Mr. Sampson, stating that I was anxious to compare the parasites found in the horse with the coccidia of other animals, and that I should be greatly obliged if he would send me one or two preparations showing the parasites, or a piece of the diseased intestine. In reply to this letter Mr. Sampson referred me to Mr. Lewis, who had the preparations on which the report was based.

I then made the same request to Mr. Lewis, and he was good enough to send me two mounted sections, one from the intestine and one from a mesenteric gland, both of which in his opinion showed the coccidia. In an accompanying letter he called my attention specially to a marked place in the section from the mesenteric

gland.

On examining both of these sections I was unable to detect any coccidia, or indeed anything remotely resembling coccidia. In the submucous coat of the intestine, and also in the substance of the mesenteric gland, there were some microscopic foci composed of small cells, but the mucous membrane of the intestine appeared to have been healthy, and certainly showed nothing suggestive of coccidiosis.

Attention may be called to the fact that the coccidia were described as having a diameter of 3 mm. That, of course, is a wholly incredible size for a coccidium, and I therefore assume that what was meant was 3 microns; but even that hypothesis would cast doubt on the accuracy of the diagnosis, as none of the species of coccidia found in any of the other domesticated animals is anything like so minute.

It will readily be understood that it is only a sense of duty which compels me to record the facts narrated above. It is very important that no case should wrongly pass into literature as a case of coccidiosis in the

horse

I have had a large experience in examining coccidia from the rabbit, the sheep, the goat, the ox, the fowl and other birds, but I am not so arrogant as to suppose that my view with regard to this case will be accepted by everyone as conclusive evidence against the accuracy of the diagnosis made by Mr. Lewis. I merely wish the difference of opinion to stand on record.—Your obedient servant,

Royal Vety: Coll: London, N.W. 1. Dec. 24, 1917.

J. M'FADYEAN.

UNDIAGNOSED.

Sir

I must thank Messrs. Brown and Lloyd for recording their cases. One thinks that all are the same disease, and very interesting.

I would like to add that I sent to the County analyst some of the contents of the intestine from the colt upon which I made the post-mortem. He reports as follows: "I have made a very careful examination for all the ordinary poisons, both mineral and organic, and have

proved their absence."

The field in which this colt was pastured contained no

oak trees

I am told that in the pasture in which the other pair, were there were acorns.—Yours faithfully,
Northallerton,
E. H. PRATT.

Dec. 30, 1917.

THE LAW OF LIGAMENT.

The following enunciation of a "law" occurs in one of a series of lectures by Prof. Arthur Keith, M.D., F.R.S., on "The Anatomical and Physiological Principles underlying the treatment of lnjuries to Muscles, Bones, and Joints," at the Royal College of Surgeons of England, November-December, 1917, which appears in *The Brit: Med: Jour:* of Dec. 29:—

"When we examine the principles and practice of Stromeyer, Little, and Adams, all of them pioneers in orthopaedic surgery, we are struck by the importance they attach to ligaments in the production and treatment of deformity; ligaments seemed to them almost as important as muscles. Even now the essential function of ligaments is misunderstood, and so long as this is the case we cannot hope to effect an object which is quite as important as the rectification of deformities—namely, their prevention. Hunter's teaching as regards the respective functions of muscles and ligaments in the mechanism of the human body is very definite. Muscle is the only tissue of the body which can be applied for the continued support of parts without undergoing elongation. A ligament cannot perform that function because it is composed of living passive tissue which must stretch when it is submitted to continued tension. Nature never uses ligaments either for the purpose of passive support or of active maintenance of parts in

position; she uses them only for the purpose of limiting movements when the muscles which guard and surround a joint are forced beyond the compass of their normal

reach.

This law can be best illustrated at the shoulder-joint. In paralysis of the shoulder muscles, or when a patient is deeply anaesthetized, the head of the humerus drops away from the glenoid cavity under the weight of the arm; the shoulder joint can then be moved far beyond its normal limits; the ligaments become then the sole agents which limit movements, and are subject to direct stress. If in the dissecting room we strip the muscles from the shoulder and leave the humerus attached merely by its ligaments, we can see then that in all normal movements they never become taut until the usual limits are exceeded. The real ligaments of the shoulder-joint, as of every other joint in the body, are the active

defensive contractile muscles.

Now man's upright position has made him more dependent on the ligamentous function of muscles than any other animal. His shoulders, when he stands up or sits up, have to be steadily supported by musclesevery one of the twenty-four vertebrae of his backbone has to be kept continuously balanced one upon the other; the contents of his abdomen have to be constantly braced by the contraction of the muscles of the abdominal wall and thus prevented from falling down. Ligaments are useless for such purposes; Nature never employs them for such ends. We see the same principle applied in the maintenance of the joints of the lower extremities. We cannot stand without the muscular braces of our hip, knee, and ankle joints coming into continuous action. It is easy to demonstrate that the maintenance of the plantar arch owes nothing to ligaments; that can be demonstrated in the living foot and leg, and also in the dissected parts.

It is quite clear that ligaments are passive parts; their elongation is not a cause but a consequence of the deformity. In short, in all static deformities of the human body the cause has to be sought for, not in ligamentous changes, but in the disordered action of the muscles, and we shall never succeed in preventing or mending static deformities until the truth of this law of

the function of ligaments is clearly realised."

THE MYCOLOGICAL DETECTION AND DETERMINATION OF CERTAIN CARBOHYDRATES AND OTHER CARBON COMPOUNDS IN PATHOLOGICAL WGRK. CASTELLANI, M.D., M.R.O.P., Lt. Col. Royal Italian Medical Service (Navy); and FRANK E TAYLOR, M.D., M.Sc., M.R.C.P., F.R.C.S., Lecturer on Bicteriology Kingle College University of the College Univer ology, King's College, University of London.

Various carbohydrates and other carbon compounds are currently used in the indentification of certain bacteria and higher fungi. The reverse process may also be carried out, namely, certain hyphomycetes and bacteria presenting permanent biochemical reactions may be used in the determination of various carbohydrates and other carbon compounds in pathological work.

For many years ordinary German yeast has been used in the detection of glucose, but this is the only subtance for which, so far, such method of detection has been employed in pathological investigations. As a matter of fact, the method is scientifically incorrect, at least when using the German yeast obtainable in London, for judging by the results of the investigation of several specimens collected by us, this yeast ferments with the production of gas, not only glucose, but several other cose; it might be levulose, or some other. To detect stances present is not too minute (not less than 0.1 per glucose recourse should be made to germs really specific cent.). The urine is distributed in sterile tubes contain-

for that sugar-germs which will ferment glucose only, with production of gas; for instance, Monilia balcanica Castellani, Monilia parabalcanica Cast. We have not specific germs for each of the other sugars and carbohydrates, but as there are a number of species of hyphomycetes and bacteria which select certain carbohydrates to the exclusion of others, we have found it possible, by using certain of these hyphomycetes and bacteria and comparing the results, to devise a general method with the object of assisting in the detection and identification of some carbon compounds, especially certain sugars and other carbohydrates.

General principle of the method.

The three more important sugars which have to be dealt with in physiological and pathological investigations —namely, glucose, lactose, and maltose—are commonly distinguished by their relative powers of reducing Fehling's solution, and by the characters of their osazones; but they may be distinguished also, in our experience by a very simple mycological test, which may be carried out as follows:

Make a 1 per cent. solution in peptone water of the substance which is assumed to be one of the three sugars and distribute it into two tubes, (1) and (2). Inoculate No. 1 with Monilia balcanica Cast, or M. parabalcanica Cast., or M. krusei Cast. Inoculate No. 2 with M. Pinoyi Cast., or M. tropicalis Cast. Incubate at 37° C. for forty-eight hours, and then read the results. If both tubes present gas, the sugar must be glucose; if No. 1 presents no gas and No. 2 gas, the sugar must be maltose; if neither of the tubes present gas, the sugar must be lactose.

M. balcanica Cast., M. parabalcanica Cast., M. krusei Cast., produce gas in glucose, but have no action on maltose or lactose; and M. pinoyi Cast, or M. tropicalis Cast., ferment glucose and maltose, but have no action on lactose. Acid fermentation without production of gas is not to be taken into account. We have carried out the experiment also with certain species of the genus Saccharromyces—either with live organisms or their extracts (zymases)

Instead of hyphomycetes, certain bacteria may be

used. Thus:

Inoculate tube No. 1 with B. proteus vulgaris Hauser (P.I. strain): inoculate Tube No. 2 with B. diffluens Cast. If both tubes show presence of gas, the sugar is glucose; if No. 1 shows gas and No. 2 no gas, the sugar is maltose; if both No. 1 and No. 2 show no gas the sugar is

B. proteus vulgaris Hauser (P.I. strain) does not ferment lactose, while it ferments with production of gas, glucose and maltose; and B diffluens Cast. does not ferment lactose and maltose, but does ferment glucose with production of gas.

Further details are given as to differentiation of Fehling reducing substances—the six sugars found in pathological urines—with a Table, and a Key; also of a method of procedure if more than one reducing substance is present: and for the detection of certain nonreducing substances.]

Use of the Method in Urine Analysis.

From a number of experiments we have carried out, adding to samples of urine various sugars and other carbo-hydrates, and also from a few pathological specimens, we can say that the method can be used in urine analysis for the detection and differentiation of certain sugars. When, therefore, gas is thus produced it does sugars and other substances—glucose, levulose, lactose, not mean with certainty that the sugar present is glupentose, etc.,—provided that the amount of such subing Durham's fermentation tubes or similar devices and inoculated with the organisms mentioned in the table and key. Two points of considerable importance are (1) the urine must be aseptic; if it cannot be collected aseptically it should be sterilised as soon as possible—after distribution in the tubes—by heating in Koch's steamer for thirty minutes on two or three consecutive days. It should never be autoclaved, as this procedure may alter the characters of the sugars and other carbohydrates present. (2) It is of great advantage to add a third or the same amount of peptone water to the urine before inoculation, otherwise the organisms may grow very scantily, and there may be no production of gas.—

Brit: Med: Journ:

It is stated, as a result of unofficial tests, that much can be done to remedy the destructive Isle of Wight disease among bees by the use of Flavine—one of the preparations introduced for wound treatment during the present war. It is sprayed in the hives, and added to the bees' food. The cost is minimal.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1917:—

H. J. Axe, LtCol. A.V.C., D.S.O. £1	0	0
R. S. Collihole, Bishop Auckland 1	1	0
W. M. Ferguson, Dundee	1	0
W. W. Lang, Major A.V.C. (1916, 1917) 2		0
H. A. MacCormack, Tufnell Pk., London, N. 1	1	0
C. E. Perry, Staple Hill	1	0
J. J. Plunkett, Capt. A.V.C. 3	3	0
G. Scade, Galston 1	1	0
M. Twomey, Macroom, Co. Cork 1	1	0
Previously acknowledged 928	9	0
£941	0	0

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:—

S. J. Marriott, Northampton	£	1	1	0	
D. Marshall, Capt. A.V.C. (S.R.)		1	0	0	
G. Scade, Galston		1	1	0	
C. A. Squair, Reigate		1	1	0	
D. Sutherland, Thurso		1	1	0	
G. H. Williams, Chippenham		1	1	0	
	£	6	5	0	

ARMY VETERINARY SERVICE

War Office, Dec. 11.

The following Dispatch has been received by the Secretary of State for War:—

General Headquarters, Nov. 7, 1917.

Sir,—I have the honour to submit a list of names of those officers serving, or who have served, under my command during the period February 26th to midnight, September 20/21st, 1917, whose distinguished and gallant services and devotion to duty I consider deserving of special mention.

I have the honour to be, Sir, your obedient servant,
D. Haig, Field-Marshal, Commander-in-Chief.
The British Armies in France.

Capt. D. Blyth, Spec. Res.; Temp. Capt. P. Braid; Temp. Capt. A. W. Brasnett; Temp. Capt. J. C. Broad; Maj. T. E. Burridge; Capt. G. H. Butcher; Temp, Capt. F. S. Clay; Temp. Capt. R. B. Coutts; Temp. Capt. T. Dalling; Temp. Capt. J. Edgar; Temp. Capt. J. A. Edwards; Capt. J. R. Ellison; Maj. H. E. Gibbs; Temp. Capt. J. Godber; Capt. D. C. Greene, Spec. Res.; Temp. Capt. W. H. Heaney; Temp Capt. S. E. Hill; Capt. (temp. Maj.) A. Hodgins; Capt. F. Hogg; Capt. S. E. Holmes, Spec. Res.; Capt. H. J. Hughes; Temp. Capt. C. A. Hutton; Capt. (temp. Maj.) V. C.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

		Anthrax		Fo and-M	ot-	Glanders†			sitic	Sheep	Swine	Swine Fever.	
Period.		Out-	Ani-		ase.		ading rcy)	Ma	nge.	Scab.	Swine	r over.	
		breaks	1000	Out- breaks	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks	Out- breaks.	Slaugh tered.	
IRELAND. Week ended Dec,	29								reaks	8		10	
Corresponding Week in $\left\{\begin{array}{c} 1916\\1915\\1914 \end{array}\right.$:::			ï	24 3 6	8 3 1	39 10	
Total for 52 weeks, 1917		3	5			1	1		15	430	198	1142	
Corresponding period in $\begin{cases} 1916 \\ 1915 \\ 1914 \end{cases}$		3 2 1	7 2 1	76	957	 1	 3		61 71 76	506 412 484	317 247 193	1986 1361 967	

Department of Agriculture and Technical Instruction for Ireland (Veterinary Branch), Dublin, Dec. 31, 1917

Note.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

Leckie; Temp. Capt. C.K.Lomas; Temp. Capt. J. F. Macdonald; Temp. Capt. H. E. McGee; Capt. S. W. Marriott; Capt. D. Marshal, Spec. Res.; Temp. Capt. A. W. Noel Pillers; Capt. J. J. Plunkett; Temp. Capt. A. R. B. Richmond; Capt. J. R. Rigby; Maj. H. T. Ryan; Maj. J. Scott-Nimmo; Temp. Capt. R. T. Skelton; Temp. Capt. D. Starkey; Capt. T. T. Taylor, Spec. Res.; Temp. Capt. J. L. Williams; Capt. H. M. Williams; Qrmr. and Hon. Lt. J. Wood; Temp. Capt. J. H. Vates.

Williams; Qrmr. and Hon. Lt. J. Wood; Temp. Capt. J. H. Yates.

Sgt. (temp. Sgt.-Maj., W.O. Class I.) G. H. Bickell, 218; Pte. (actg. Sgt.) J. Briggs, SE/4030; Pte. (actg. Cpl.) R. W. Buck, SE/11432; Pte. (actg. Sgt.) T. M. Calder, SE/4507; Staff Sgt. R. Carlisle, SE/14108; Pte (actg. Sgt.) H. De Bolla, SF/4829; Pte. (actg. Sgt.) J. Fleming, SF/1201; Pte. G. E. W. Gosslinn, SE/168; Pte. (actg. Staff Sgt.) C. A. Gundry, SE/10743; Pte. (actg. Cpl.) J. Hardman, SE/10532; Pte. (actg. Sgt.) R. Kew, TT/0672; Pte. (actg. Staff Sgt.) W. Lovick, SF/1267; Sgt. (temp. Sgt-Maj., W.O. Class I.) M. Maloney, 120; Staff Sgt. H. Mee SE/23647; Pte. (actg. Sgt.) A. Neill, TT/01332; Pte. (actg. Sgt.) P. G. Patten, 987; Sgt. (temp. Sgt.-Maj., W.O., Class I.) H. J. Rilett, 217; Pte. (actg. Sgt.) G. H. Robbins, SE/1182; Pte. (actg. Sgt.) H. M. Roberts, SE/1226; Pte. (actg. Sgt.) J. J. Scott, SF/2361; Cpl. (actg. Sgt.) A. W. Stafford, N/424; Pte. (actg. Sgt.) L. Stone, TT/0779; Pte. (actg. Sgt.) J. A. Trowbridge, SE/2971; S.-smith (actg. Farr. Qrmr.-Sgt.) E. Walsh, 174; Pte. (actg. Cpt.) E. J. Wheeler, SE/1280; Capt. E. F. Angler; Capt. G. W. Bloxsome; Lt. (temp. Capt.) G. Green; Capt. J. H. Jones; Capt. A. R. Routledge; Capt. J. F. Taylor; Capt. W. G. Thompson; Pte. (actg. Sgt.) A. Heveningham, TT/03171; Pte. (actg. Sgt.) F W. Huddleston, TT/0367.

Australian Imperial Force. J. H. Yates.

AUSTRALIAN IMPERIAL FORCE.

STAFF.

Maj. M. Henry; Lt.-Col. (temp. Col.) Ε. Λ. Kendall; Maj. R. H. F. Macindoe.

Capt. G. S. Bruce; Capt. R. A. Dowling; Capt. G. F. Finlay; Maj. L. E. McKenzie; Sgt E. G. Chudleigh, 160, 2nd F.A.B.; Staff Sgt. H. H. Hatton, 25; Cpl. C. Kelly, 572; Vet. Sgt. F. T. C. C. Morgan, 296; Pte. W. Taylor, 137; Sgt. W. A. Walls, 203; Sgt. J. Westbrook,

CANADIAN A.V.C.

STAFF.

Capt. (actg. Maj.) T. C. Evans, M.C.; Capt. (temp. Maj.) C. G. Saunders; Capt. (temp. Lt.-Col.) D. S. Tamblyn.

NEW ZEALAND V.C.

Maj. P. M. Edgar; Maj. (temp. Lt.-Col.) H. A. Reid.

DECORATIONS AND PROMOTIONS.

The King has been pleased to give orders for the following promotions and appointments for valuable services rendered in connexion with military operations in the field (dated Jan. 1, 1918):-

THE MOST HONOURABLE ORDER OF THE BATH. C.B. (Military Division).

Col. (T. Brig.-Gen.) Ernest Reuben Charles Butler, c.m.G., F.R.C.V.S.

THE MOST DISTINGUISHED ORDER OF ST. MICHAEL AND ST. GEORGE.

C.M.G.

Lt.-Col. (T. Col.) Ernest Arthur Kendall, A.A.V.C.

For valuable services in connexion with the War (dated Jan. 1, 1918):-

ORDER OF ST. MICHAEL AND ST. GEORGE.

K.C.M.G.

Hon. Maj.-Gen. Fred Smith, c.B., c.M.G., F.R.C.V.S., ret. pay A.V.S.

C.M.G.

Col. (T. Brig.-Gen.) Charles Edwin Nuthall, c.B.

The King has been graciously pleased to approve of the following rewards for distinguished services in the Field (dated Jan. 1, 1918:

TO BE HON. MAJOR-GENERAL.

Col. (T. Brig. Gen.) J. Moore, c.B., F.R.C.V.S.

TO BE BREVET COLONEL.

Col. (T. Col.) F. Eassie, C.M.G., D.S.O.

TO BE BREVET LT.-COLONEL.

Maj. T. E. Burridge; Maj. (A. Lt.-Col). A. Oliver, c.m.a., F.R.C.V.S.

TO BE BREVET MAJOR.

T. Capt. (A. Maj.) S. L. Symonds.

For valuable services rendered in connexion with the War (dated Jan. 1, 1918 :-

TO BE BREVET LT.-COL..

Maj. (T. Lt.-Col.) J. J. Aitken, D.S.O.

TO BE BREVET MAJOR.

Capt. (T. Maj.) A. S. Head, F.R.C.V.S., R. of O., late A.V.C.

War Office, Jan. 1st.
The King has been pleased to approve of the following rewards for distinguished Service in the field :--

DISTINGUISHED SERVICE ORDER

Capt. (T. Maj.) Edward Cecil Doyle; Maj. Hugh Edward apt. (1. Maj.) Edward Cech Doyle; Maj. Hugh Edward Gibbs; Capt. (T. Maj.) Adam Hodgins; Maj. William Kennedy, E. Afr. Vet. Corps; Capt. (T. Maj.) Victor Carmichael Leckie; Maj. William Ludgate; Maj. Reginald Cosway Matthews; Maj. John Scott Nimmo; Maj. Hugh Thomas Ryan; Maj. Leonard Morris Verney, F.R.C.V.S.; Maj. Herbert Mainwaring Wil-

AUSTRALIAN A.V.C.

Maj. Max Henry; Maj. Louis Evander McKenzie. CANADIAN A.V.C.

Capt. (T. Lt.-Col.) David Sobey Tamblyn.

NEW ZEALAND A.V.C.

Maj. James Stafford.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Jan. 1.

REGULAR FORCES. ARMY VETERINARY CORPS.

Maj. (actg. Lt.-Col.) J. J. Aitken, p.s.o., retains the actg. rank of Lt. Col. on alteration in posting (Jan. 2).

Temp. Capt. H. McC. Nedeau relinquishes his commn. on acct. of ill-health, and is granted the hon. rank of Capt. (Dec. 15, 1917).

The following casualties are reported:-

Previously reptd. Wounded, now reptd. Died of wounds—Capt. A. W. Campbell.

WOUNDED—Capt. J. M. Whyte, attd. R.G.A. DIED—Lieut. H. H. Lefebvre.

OBITUARY.

HERBERT MAINWARING WILLIAMS, Major A.V.C., D.A.D.V.S. Graduated, Lond: Dec., 1904.

Major Williams died from wounds, on 23rd Dec., 1917, aged 38. He was the only son of the late Rev. R. Mainwaring Williams, Rector of Harnhill, Gloucestershire.

A. E. CLEASBY, M.R.C.V.S., Islebeck Grange, Tnirsk, Yorks. Edin: 1888.

Mr. Cleasby died on 20th Dec., 1917, aged 53.

E. IRELAND, M.R.C.V.S., Bridlington, Yorks.
 H. & A. S., 1872; Edin: April, 1880.
 Death occurred on 27th Dec., 1917, at the age of 68.

R. A. W. Stevenson, M.R.V.C.S., Brigg, Lines. Lond: April, 1866

Deceased 18th Dec., 1917, aged 71.

Archibald Wright Campbell, T. Capt. A.v.c., Wishaw, Lanark. Glas: June, 1916.

Members of the profession will learn with regret of the death of this promising young officer, who was the only son of Mr. Archibald Campbell, M.R.C.v.S., Wishaw.

Educated at Wishaw High School and Hamilton Academy, he joined the Army Ve erinary Corps with a Lieutenant's commission immediately on obtaining his diploma. After six weeks' training at Aldershot, he sailed for Egypt as an officer in command of a veterinary section. Two months after he had landed in the East he was given the post of O.C. a mobile veterinary section, and for a year and five months was attached to the first line of defence in Salonica. There in January, 1917, he was promoted to the rank of Captain. Subsequently, at his own request, he was sent with the mobile section,

in July, to Palestine, where he was posted to the Mounted Brigade, attached to headquarters, and latterly he was made a Brigade Officer. He sustained a gunshot wound in the head in action on the 28th November, and died in hospital on Dec. 13th.



Capt. Campbell had a distinguished college career, and was one of the most brilliant students who have graduated from the Glasgow Veterinary College. He gained seven medals and nine first-class certificates, and passed with honours his final examination for the diploma of the Royal College of Veterinary Surgeons.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anth	rax	and-1	ot- Iouth ase.	Glan	ders.†	Para Mar	sitic age. ‡		Swine	Fever.
Perio	od.			Out- breaks	Ani- mals.	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
Gt. BRITAIN. We	ek en	ded Dec	. 29	1	· 6				7	119	218	22	23	5
Corresponding week in	{	1916 1915 1914		13 9 12	21 9 21					41 54	80 92	36 19 8	49 81 58	26 248 199
Total for 52 weeks	1917		•••	421	480			24	62	2596	4831	543	2104	869
Corresponding period in	{	1916 1915 1914		551 575 722	663 641 796	1 56 27	24 702 166	46 49 97	117 85 286	2104 933 1530	4614 1995 2642	381 257 226	4288 3994 4356	9145 16702 39277

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Jan. 1, 1918

† Counties affected, animals attacked:—Worcester 7

Excluding outbreaks in army horses.

IRELAND. Week ended	Dec. 22					 		Outbreaks 	15	1	5
Corresponding Week in {	1916 1915 1914							 2 	28 11 11	5 1 2	30 2 15
Total for 51 weeks, 1917		3	5			1	1	45	422	198	1132
Corresponding period in {	1916 1915 1914	3 2 1	7 2 1	 76	 957	 1 	 3 	61 70 76	482 409 479	309 244 192	1847 1851 966

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Dec. 24, 1917.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

RECORD VETERINARY

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1540.

JANUARY 12, 1918.

VOL. XXX.

FRANK W. GARNETT, C.B.E.

The profession will be unanimous in congratulating its President upon his creation as a Commander of Order of the British Empire. A high Order of the British Empire is the fittest recognition of work such as his. Admission to the Order depends upon good work in the service of the Empire, and of this Mr. Garnett has done much both directly and indirectly. His years of work in the development of the profession-work the value of which need not be emphasised to veterinary surgeons have done a great deal to increase our Imperial utility as a corporate body. The outbreak of war found him our President; and ever since he has been our chief representative in helping the Government to decide upon how best to use the profession to meet the Empire's need. We all know how valuable the latter direct service has been; but perhaps the more indirect work mentioned previously has been even more useful to the Empire. It is good to feel that such work has been adequately recognised; it is better still to know that the man who did it remains at our helm at a time like this.

The New Year's list of additions to the Order of the British Empire contains the names of three graduates of the R.C.V.S., in addition to that of the President. Brevet-Major J. Wakefield Rainey, A.v.c., is now an Officer of the British Empire; while Mr. Herbert Mason, Inspector to the Veterinary Service of the Minister of Agriculture in Egypt, and Mr. A. E. Boyer, a conducting officer in the horse transport service, become Members of the Order. All will welcome these appointments.

The recently founded Order of the British Empire already is, and will remain, one of the most honourable marks of Imperial Service; and that veterinary surgeons should be enrolled in it so early is one more sign of the increasing recognition of the profession by the State.

THE COUNCIL MEETING.

The January Council meeting was quiet and business-like. Hardly any discussion is reported, beyond the little arising from the obituary list and the financial statement. The rest of the proceedings consisted mainly in the adoption of Committee reports, which contain some matters of great interest.

Finance was more important than ever. The figures given speak for themselves. Although time a name was down for restoration, and it cannot voluntary subscriptions brought in £960 during now be restored till April, if even then. This was 1917, there was still a deficit of £250 for the year; the fourteenth ordinary general meeting of Council and, had it not been for voluntary subscriptions, since the war began; and eight of the fourteen the year's loss would have exceeded £1200. The have been ineffective for registration purposes. position of the College, and the duty of the profess- Making all allowance for war conditions, we still ion towards it are patent to everyone. Councilmen think this happens too often.

have never emphasised their complete dependence upon voluntary subscriptions so strongly as the President and Mr. Trigger did in their few remarks last week.

The most interesting items of the other business are found in the report of the Parliamentary and General Purposes Committee. Some important correspondence regarding the release of veterinary students from military service was reported; and the President deserves congratulation for his able handling of a difficult subject, in which, despite official opposition, he has secured a fair measure of

A letter from Mr. T. McGuinness reported that the desired improvements in the salary and status of veterinary officers of the D.A.T.I. have now been obtained. This application had the support of the R.C.V.S., which probably had a good deal to do with obtaining the result. The success is gratifying; and it is to be hoped that the Council's aid may be equally useful in the matter of the definition of "veterinary surgeon" in the Transvaal, regarding which a letter is to be sent to support Col. J. Irvine Smith. Such matters illustrate how much more our Council is now brought into communication with Government departments at home and abroad than was once the case.

The next item, viz., the Secretary's action regarding the supply to veterinary surgeons of calcium carbide for motor head lumps—is also important. Members will now only be able to obtain permits to purchase calcium carbide through the R.C.V.S.; (pp. 288-9). One wonders if the members ever realise the amount of extra help the Secretary has given them during the war.

Two other items deserve notice. Everyone will congratulate Mr. R. W. M. Mettam, the son of Prof. Mettam, who gained the first FritzWygram Prize for 1917, upon having been adjudged the winner of the Williams Memorial Prize at the end of the year. Few sons of distinguished fathers, following their fathers' footsteps, obtain such early and remarkable This, though it has its sad side, is pleassuccess. ant to notice; the last point we have to mention is

For the second time in succession, the Council meeting was too small for the removal or restoration of names. Last October no names were recommended for action, so no harm was done; this

ACUTE SPREADING DISEASE OF THE ALVEOLAR PERIOSTEUM IN THE HORSE: MALIGNANT GLOSSITIS, GANGRENE OF THE HEAD, GLOSS ANTHRAX.

By F. T. HARVEY, F.R.C.V.S., St. Columb.

Cases of the nature referred to in this paper are no doubt met with from time to time by veterinary surgeons all over the country. Different views have been held regarding their etiology. Many of them were regarded at one time as being of an anthracoid nature, and in dealing with the symptoms of the so-called gloss-anthrax, as met with in the horse, the late Prof. Robertson, in his "Equine Medicine," described a condition having many features in common with the cases here recorded.

I can find no mention in veterinary literature of these cases of acute swelling of the head being described as having their origin, or being definitely associated with, infective disease of the dental sockets. Möller says: "In the front molars, alveolar periostitis is sometimes due to external injury to the lower border of the jaw, but in such cases it usually remains localised.

Case I. February 16, 1910. Half-bred colt, three years old (rising); at grass and unbroken. Found with head enormously swollen, tongue protruding; breathing with great difficulty. The colt

was dead on my arrival at the farm.

The head had somewhat of the appearance of that of the hippotamus, and the smell was very offensive. The nostrils were almost blocked with a straw-coloured jelly-like exudate, and the swollen tissues were infiltrated with similar material, and more or less gangrenous. The left gum anteriorly margin, the bone being in a necrosed condition. and a portion of the left side of the tongue were covered with a tough, yellowish, diphtheritic membrane. The second permanent molar in the left lower jaw was quite loose in its socket, the one in broken-down stinking material. The disease appeared to have started in the tissues around the second molar. After the jaw was boiled the two from their sockets; not so the others.

Case II. May 9, 1910. Half-bred colt, three years old. Had been in regular work on the farm for some months. This fact is important, as one colt had worked in the team as usual up to midday on May 9; it had been noticed that for some days he fed slowly, appeared dull, and was sluggish

Around the second molar in the left lower jaw there was a nasty-looking fungating mass, and a (infection by contact). The morbid process spread hours later. like an avalanche, the head became enormous, and occurred early on May 11th.

I was unable to obtain the parts for examination; the case, however, was seen sufficiently early to enable one to definitely assign the storm-centre, so to speak, as originating in the anterior molars of the

left lower jaw.

Case III. March 29, 1916. Black Shire colt, three years old (rising), unbroken; out at grass with two others. Head noticed to be swollen at mid-day. I saw the case at 3 p.m. (29th); by this time the swelling had greatly increased: the tongue was protruding. The right side of the face was chiefly involved, but the swelling was fast spreading over the whole head. The mouth was very offensive, and the right nostril almost blocked with yellowish plastic lymph. It was impossible to inspect the teeth on account of the great swelling of the cheeks. Died 6 a.m., March 30th.

This was almost a duplicate of Case I. morbid process, however, here started in the socket

of the second right-hand lower molar.

Case IV. April 20th, 1917. Harness cob, three years old. unbroken. First seen to be amiss at 10 a.m., the head was then much swollen, and the breathing laboured. I saw the case at 2 p.m.; nostrils, especially the right, almost blocked with straw-coloured, jelly-like exudate. Very offensive smell. Right eye closed. Marked swelling of a boggy character over the right side of the face and head, and rapidly spreading over the left side. Tongue not involved. Died at 10 a.m., April 21.

Post-mortem. The second upper molar on the right side was quite loose, and to a lesser degree the first one. All the tissues around were gangrenous. The superior maxilla was denuded of periosteum for from 11 to 2 inches from the aveolar

Remarks. It is not often that a series of cases offers such definite etiological relationships, the age and time incidence being notable. They were all three-year-olds, and had just finished shedding front being less so; both were in contact with their two front molars. In Case IV. a small portion of a milk-tooth was still present, but it was not in the diseased area. As regards time, they all occurred between February 16 and March 7, in teeth above mentioned could be easily removed their respective years. I know other and similar cases have occurred from time to time, but I have

no exact notes regarding them.

These cases are often attributed to adder bites. Late in the evening of March 21, 1909, I was asked could thus get a better history of the case. The to see a colt with an enormously swollen head, said to be the result of an adder bite. It was seen to be ill early in the day, and the local charmer was sent for. This Eminent was not at home at in his work. No special attention, however, was the time, but his wife informed the messenger that directed to him. The mid-day meal on the 9th was she expected him back at 5 p.m., and that, if she refused, and it was soon seen that the head was could then give him the name of the bitten animal, the charm could be set in motion and the cure I saw the case at 6.30 p.m., the mouth was at effected, Accordingly, at 5 p.m., the owner of the once inspected; the stench was very marked, animal and his friends assembled to witness the miracle. Four hours passed away, but the swelling increased, and I was then consulted. Of course similar condition existed on the side of the tongue nothing could be done, and death occurred some

Condition of the tongue. In one case (IV.) the the tongue protruding and gangrenous. Death tongue remained free from disease. Usually its swollen and gangrenous condition forms an out-

standing feature of the case, hence the term "Maligtongue is more likely in disease of the lower jaw than in the upper; as contact is closer, the parts soon become soddened with infective material, and in addition, the tougher and heavier epithelial covering of the upper area of the tongue would offer a greater resistance to infection. It is astonishing how quickly the tongue becomes involved—as seen in Case II.

The enormously swollen condition of the parts usually present when one is first called in entirely obscures the original nature of the case, and this will be entirely overlooked, unless a careful inspection is made of the condition of the teeth after death.

In those rare cases in older animals in which infective inflammation of the posterior aveoli occurs the symptoms will vary somewhat. The tongue may not be swollen, and the general condition will more rarely approach the "Anthracoid angina" or "Malignant sore throat" of Robertson. Two such cases were described by me in a clinical paper read before the Western Counties Veterinary Medical Association some years ago. But while here the external swellings are less manifest than in infection of the anterior molars, there is in all of them an early puffing and bulging of the post-orbital fossæ. I am of opinion that a symmetrical bulging in the post-orbital region, occurring along with general systemic disturbance, may be regarded as almost certain evidence of a dangerous poisonous process going on somewhere in the body, and that in the absence of other indications, the molars had better be examined.

I recently saw this condition in a horse with a necrotic process going on in the skin and subcutaneous tissues, the result of a tread, over an old sidebone. Here, as the foot improved and the necrosed tissues came away, the post-orbital swelling cleared up. It is interesting to note in this case, that the plantar nerve had been divided on the same side two years earlier to relieve lameness.

Pathology.

It is probable that infection occurs in the tissues adjoining the recently erupted tooth or teeth, and that it is at first confined to the periosteum of the aveolus. In the class of case we have described, the infection soon passes out of bounds, and spreads widely, forming what Sir Alemroth Wright terms an "avalanche infection." In none of the cases was there any evidence of external periostitis, and I do not think they could have developed as a result of external injury. It is remarkable, however, how thin is the bony covering of the roots of the anterior molars. In one or two of the cases, possibly as a result of erosion from within, it was not much thicker than good brown paper.

Case II. suggests that if careful observation was made something might be noted amiss some days before the external swelling becomes evident. In the dried bones there is no evidence of swelling anywhere, erosion only has occurred around the the double advantage of being more rapidly absorbed diseased sockets, and this not very pronounced.

mixed one; anaërobic organisms find a suitable nant glossitis." It is evident that infection of the jumping-off ground and extensive gangrene follows. No doubt similar cases occur in young cattle and are usually diagnosed as black-quarter of the face and head. I have never in such cases examined the teeth after death, but hope to do so when occasion offers.

Treatment.

When the case comes under notice it is, as a rule, too late for anything to be done. In Case II. incisions were made in the tongue and gums, fairly early. If deep and extensive incisions are made severe and even fatal hæmorrhage may occur. In Case IV. the bleeding gave great trouble. Early removal of the teeth affords the best chance, if an early diagnosis can be made.

Note.—Superstition still lingers in Cornwall. Not long ago I met a woman returning from a visit to the seer above alluded to. She had then taken her boy, who was affected with ringworm, to see the man for the second time. She said the boy had been treated by the local doctor with no effect. She also mentioned by name some one else who was being charmed for ringworm. It is chiefly, however, in cases of supposed adder bites, especially in dogs, that the aid of the charm is invoked.

In another instance a small farmer, possessing a rather contracted mentality, who had a few cases of Johne's disease in his stock, was certain that he was being overlooked by someone, betook himself to Plymouth to interview someone there who he had been told could

destroy the spell.

One occasionally hears even now of a person being overlooked, and in the remote past many forms of disease or catastrophies were regarded as the result of the malign influence of some individual, and similar beliefs were held in many parts of the world. In the recent FitzPatrick Lectures on "Medicine, Magic, and Religion,' Dr. Rivers says, "In any case, the immediate agent to whom the Australians usually ascribe the occurrence of disease is a human being, and in accordance with this belief the object of the friends of a person who becomes ill is to discover and propitiate the man to whose action the disease is ascribed."

ABSTRACTS FROM FOREIGN JOURNALS.

SUGAR IN VETERINARY SURGERY.

G. Bussno published an article upon this subject in La Clinica Veterinaria of 1916. He has employed sugar in the treatment of numerous lesions; and, after relating the histories of his cases in detail, he formulates the following general conclusions;

1. Solutions of sugar (glucose) of from 5 to 10 per cent. in strength, injected subcutaneously into the abdominal cavity, and into the joints of experimental animals, are absorbed in a little time without any inconvenience except a slight and transient

rise in temperature.

Solutions of sugar of greater strength (25 p.c.) at a temperature of from 29 to 30° C. may be injected into the trachea or jugular vein of the horse, with and easily tolerated. From 500 to 1000 c.c. in the The morbid process is acute, and the infection a day may be injected without causing any disturb-

ance in the chief organic functions. If the injections are repeated daily a notable improvement in the general nutritive condition of the animals may be observed. In this respect it may almost be said that solutions of sugar may be advantageously substituted for ordinary injections of physiologic solution.

The solutions of sugar may be made either with simple distilled water or with physiologic solution. For example, 250 grammes of sugar may be added to 1000 c.c. of physiologic solution to make a 25 p.c.

solution.

2. Sugar in powder form applied upon any solution of continuity acts principally by its absorbent and antiseptic properties, at the same time causing a nutritive hyper-activity and granulation of the wound, which leads in a short time to a rapid cicatrisation.

3. Solutions of sugar applied directly upon sutured wounds protects them from all possible infection, besides securing healing by first intention. Applied upon solutions of continuity with loss of substance which are not sutured, whatever their nature and extent may be, sugar immediately favours the development of granulations and a good aspect of the wound, and afterwards sensibly accelerates the process of repair.

4. In operations upon the feet, which are generally accompanied by more or less loss of substance, and especially in partial or total stripping of the sole, treatment with sugar, in addition to rapidly cleansing the wound, causes the desired formation of horny tissue, which is observed without fail between the twelfth and the fifteenth days after

5. Sugar also possesses the considerable advantage of being a strong deodorising agent, since it has the property of destroying bad odours proceeding from dressing materials which are impregnated with blood mixed with abundant secretion from the wound. This is especially noticed in operations upon the feet. When sugar is used the dressing materials acquire an odour similar to that produced by the alcoholic fermentation of trodden grapes.

6. When sugar is used for treatment the formation of pus is hardly ever observed, even in very extensive solutions of continuity with loss of substance. In contact with sugar the secretions of the wound diminish notably after the first treatment, and disappear completely after successive ones. If the treatment has been well and carefully carried out the wound may be cured in 8, 10, or 12 days.

7. Ordinary commercial sugar may be used, either solid or in solution, without any special preparation being necessary. Consequently it is a useful and practical therapeutic agent, for its price is relatively low, and especially because its domestic use renders it readily available in cases of urgency.

8. Although the therapeutic properties above stated are common both to ordinary sugar and to glucose, the author prefers to use glucose on account of its lesser cost and also of its physical characters.

Being finely powdered, it adheres more closely to the tissues than ordinary sugar, and forms very resistant and compact protective layers.

9. On account of its absorbent, antiseptic, and cicatrising properties, sugar represents a therapeutic agent of the first order, which may render great service in veterinary surgery, especially in private practice, as a substitute for the common antiseptic powders.—(Revista de Higiene y Sanidad Pecuarias).

Royal College of Veterinary Surgeons.

A Quarterly Meeting of Council was held at the College, 10 Red Lion Square, London, W.C., on Friday, January 4th, 1918 Mr. F. W. Garnett, President, in the

The following members were present: Messrs. George A. Banham, W. Freeman Barrett, Dr. O. Charnock Bradley, Major J. W. Brittlebank, Messrs. J. H. Carter, J. C. Coleman, P. J. Howard, Alexander Lawson, Dr. J. McI. McCall, Sir John M'Fadyean, Prof. E. S. Shave, Messrs. S. Slocock, R. C. Trigger, Peter Wilson, George Thatcher (Solicitor), and Mr. Fred Bullock (Secretary).

Minutes. The minutes of the last meeting, having

been printed and circulated, were taken as read and

confirmed.

Apologies for Absence. Apologies for absence were announced from Major J. Abson, p.s.o., Messrs. J. Clarkson, John Dunston, Capt. A. Gofton, Messrs. J. McKinna, W. J. Mulvey, W. Packman, T. Salusbury Price, Major-Gen. R. Pringle, C.B., D.S.O., Sir Stewart Stockman, Mr. H. Sumner, Major-Gen. Henry Thomp-son, C.B., and Mr. S. Wharam.

Obituary. The Secretary read the Obituary, which contained the names of a very large number of members, including those of Prof. A. E. Mettam and Mr. John

Blakeway.

Sir JOHN M'FADYEAN: The list which has just been read contains the name of one whose death comes home, I am sure, to all of us with singular impressiveness-I mean that of Prof. Mettam, our old friend and colleague on this Council. We cannot forget at the moment that he attended our last Council meeting, and I think I might say that his presence on that ocsasion, when his health was already the cause of grave anxiety, was only one illustration of the singular devotion to duty which he exhibited throughout the whole of his professional To the members of this Council who knew him so well it cannot be necessary to say anything by way of eulogy of his character as a man, as an eminent scientist and teacher, or as one who devoted himself so absolutely to the interests of the profession to which he belonged. It is no exaggeration to say that his death at the height of his powers was a great and at the present moment an irreparable loss to the cause of veterinary science as a whole, to the school which owes so much of its present prosperity to his wise direction, and to this Council, where his dispassionate and sound judgment and his wise counsel with regard to veterinary education and everything appertaining to the interests of the profession were always held in high esteem. I am sure that our hearts go out in the deepest sympathy to the widow and her family, and 1 beg to move that a letter expressing the deep sympathy of the Council be addressed to Mrs. Mettam.

Mr. Lawson: I should like to associate myself with this expression of regret by seconding the motion which has been proposed so ably by Sir John M'Fadvean. I have known Prof. Mettam for a very long while. have noticed his gradual growth in the profession. Now in middle age he is taken away from us, and all the advice which he would willingly have given us in the future is lost. I am exceedingly sorry, and I condole very much with the widow and children. He has been a personal friend of mine. We have rarely met in London without having a meal together, and therefore I saw a good deal of him personally, and I always had a great deal of pleasure in being associated with him. I have very great pleasure in seconding the motion that has been proposed.

The motion was carried unanimously by the Council

standing.

Mr. TRIGGER: Among the long and sad list of the names our Secretary has read to day, there is another which comes very much home to us, inasmuch as we have lost a valuable member of our Examining Board, Mr. John Blakeway, a gentleman who has been a member of the Board for some years. It has been my happy lot to have known him from his boyhood days, since he entered the College. I first made his acquaintance in London and I have watched his career with very great pleasure. He was a successful practitioner, an honourable man, a credit to his profession, a sporting man who carried great weight with hunting men, and a man who rode his own horse in point to point races, and won-and all these little things tend to put the profession in the position in which it should be. His memory will appeal to this Council more nearly as a successful examiner, and I recall with pleasure that, when I nominated him on a recent occasion for re-election, although there were three or four candidates for the post of examiner, Mr. Blakeway polled every vote at this table. I think that is almost unique, and I do not think you could have a greater tribute to the confidence the profession placed in Mr. Blakeway; and I am quite sure that that confidence was shared by the profession generally. Mr. Blakeway had retired from practice, but at the call of duty he placed his services at the disposal of his King and country. He has been, as you know, in Canada or abroad practically from the commencement of the war. I venture to think that, as he was not in very robust health, this really hastened his end. We all regret the loss of one whom we valued very highly, and I beg to move that a vote of condolence be sent to the widow and family of the late Mr. John Blakeway.

Mr. COLEMAN : As Mr. Blakeway was an old college chum of mine, I should like to associate myself with the vote by seconding the proposition. Pretty well through out the whole of his career he was always a pal, a chum, and a man, and I can endorse all the proposer has said

about him.

The motion was carried in silence by the Council

standing.

Health of Major Abson. Mr. TRIGGER: I am sure it will give the Council great pleasure to know that Major Abson, who has distinguished himself in the war, is making good progress towards recovery from a very critical operation which he has been through. I had a letter from him a few days ago in which he says he has been able to take walks and is hoping soon to be able to undertake light service.

The PRESIDENT: We hope he will be soon restored to

perfect health.

NEW MEMBERS.

The SECRETARY: Since the previous Quarterly meeting the following have been admitted to membership of the Royal College of Veterinary Surgeons:

he Royal College of Veterinary Surgeons:—

Dublin: W. E. Barry, J. J. Clune, M. Donohoe, J. J. English, W. Ford, W. J. Henigan, C. P. Kennedy, J. McCauley. C. E. McCrea, J. Malone, D. Mahony, M. McLaughlin, A. H. Morris, J. P. Morris, T. A. O'Brien, W. Walsh.

Edinburgh: Robert Beattie, A. N. Metcalfe, J. Litt, A. D. Sanderson, T. A. Shaw, D. G. Wishart.

Liverpool: W. F. Aston, W. L. Marshall, C. Wadsworth.

worth.

London: F. J. Andrews, T. Le Q. Blampied, C. S. Conder, H. Cooper, H. C. Driver, J. D. Haywood, C. J. Peach, S. H. Pettifer.

Correspondence.

The SECRETARY: I have a letter addressed to the Solicitor of the College by Lady Low, in reply to a letter of condolence on the death of Sir Frederick Low, who assisted the College so much in Parliament in connection with the Veterinary Surgeons Act Amendment Bill:

51 Sloane Gardens, S.W. Dear Mr. Thatcher,—Please convey to the President of the Royal College of Veterinary Surgeons my most heartfelt thanks for his sympathies for me on the death of my dear husband, and please accept for yourself my most sincere gratitude. The universal respect and affection which have been displayed are some small consolation to me in my irreparable loss.—I am, yours very truly.

Oct. 18th, 1917.

KATHERINE LOW.

FINANCE COMMITTEE.

Mr. Lawson read the following report of a meeting of the Finance Committee held on January 4th :-

Quarterly Financial Statement. The Secretary submitted the financial statement for the quarter, showing a balance in hand of £466 7s. 8d. The list of liabilities amounted to £701, exclusive of the examination expenses at Liverpool, the accounts for which had not yet been received. There was thus an adverse balance of about £250, in spite of the fact that £150 had been transferred from the deposit account.

It was resolved: That the financial statement be be approved, and that, subject to confirmation by the treasurer, cheques be drawn for the liabilities shown, together with cheques for monthly salaries, petty cash, coal, gas, electric light, and insurance, required during

the ensuing quarter.

Voluntary Subscriptions. The Secretary reported that the amount received in voluntary subscriptions during the year ended 31st December, 1917, was £960. In spite of this, however, owing to the increased loss on examinations, there was an adverse balance at the end of the year of £250.

Mr. LAWSON: I beg to move that the Report of the

Finance Committee be received.

Mr. TRIGGER: I beg to second that, and in doing so I should like to emphasise the point that has been made by the Chairman at the Committee—that but for the support we have received from the profession we should have been absolutely bankrupt long before now. It can be shown really that the expenses of this establishment under Mr. Bullock's régime have been cut down to the very lowest possible. Supposing we had only had a successful examination we should have been able to pay our way and have had no loss at all. It shows that really and truly the profession has stepped in and saved

us from very serious consequences.

The motion for the reception of the Report was carried. The PRESIDENT: In the absence of the Treasurer, I will myself propose that the Report be adopted. The Treasurer was here yesterday, although suffering from a very bad cold, and I am sure we all miss him to-day. He would naturally have moved the adoption of this report. It is not a very bright one, and it is one that we shall have to bear in mind in the coming year. It points to one thing: that we depend more and more on the voluntary subscriptions, and I think it is the duty of us all to try and get as many friends as we can to come to the rescue of the College. If it had not been for the voluntary subscriptions during the past two years, it is quite certain that we should have been without funds of any description at the present time.

Mr. Lawson: I will second the motion. The Report was adopted.

REGISTRATION COMMITTEE.

THE SECRETARY read the following report of a meeting of the Registration Committee, held on January 3rd, 1918:-

Cases. No. 1908 (Burke). The Solicitor reported that an appeal had been lodged against the conviction obtained in this case, and that, after consultation with the President, he had approved of the briefing of Senior Counsel for the Appeal, the Veterinary Medical Association of Ireland having undertaken to defray any ad-

ditional expense thus caused.

No. 1914. (Sewell, E. J.) The Solicitor reported that no appeal had yet been lodged with the Privy Council, and that Mr. Sewell continued to use the title. It was resolved: That unless an appeal is lodged within fourteen days, or the use of the title is discontinued, a prosecution be instituted under Clauses 16 and 17 of the Act.

No. 1932 (Johnstone). The Secretary reported that no further evidence had been submitted, and the case

was ordered to be struck out.
No. 1938 (G. N. Tomlinson)
No. 1939 (W. J. Moran)

Court Martial cases. It was resolved that these members be summoned to appear before the next meeting to show cause why their names should not be erased from the Register for conduct disgraceful to them in a professional respect.

Applications for Restoration. An application for restoration of name to the Register was received on behalf of Mr. Walter Gardner, whose name was removed by order of Council in July, 1917. It was resolved: That the consideration of the application be deferred

until the next meeting.

An application for restoration of name to the Register was received from Mr. David Sinclair, whose name had been removed from the Register in pursuance of Section 5 (4) of Act. It was resolved to recommend: That the name of Mr. David Sinclair be restored to the Register

of Veterinary Surgeons.

Farriers Company Lectures. A report was received from the Solicitor, and it was resolved: That no action

be taken.

THE PRESIDENT: I propose that this Report be received and adopted. I have to state with regard to Mr. Sewell's case that we had a telephonic communication from the Privy Council this morning that Mr. Sewell had lodged his appeal this morning.

Mr. CARTER: I beg to second that motion.

The motion was carried unanimously.

EXAMINATION COMMITTEE.

THE SECRETARY read the following Report of a meeting of the Examination Committee held on January

3rd., 1918 :-

Reports on December Examinations. Reports were received from the Chairman of the Board of Examiners, the Local Secretaries, and Delegates on the December Examinations, and it was resolved: That the Reports be approved.
That, in accordance with the suggestion of the Presi-

dent, the Local Secretary in Scotland be requested to arrange at future examinations that the Examination in Meat Inspection shall be held at the Royal (Dick)

Veterinary College, Edinburgh.

That letters of thanks be addressed to the following persons and institutions for their valuable assistance in connection with the conduct of the Examinations:

Mr. J. R. Hayhurst, Superintendant, Metropolitan Cattle Market, London: Specimens for Pathology and Meat Inspection Examinations.

Secretary of Senatus, Edinburgh University: use of

room for the Written Examination.

Col. Stratton, A.D.V.S., Scottish Command: Supply of

horses, Registrar, Liverpool University: use of room for Written Examination.

Liverpool Corporation: use of stable for Practical Examinations.

Mr. James Cloake, Dublin: supply of materials for Meat Inspection, and live stock for the Clinical Examinations.

Sir F. Moore, Dublin: supply of Botanical Specimens. Col. Rutherford, D.D.v.s., Dublin: supply of horses.

Educational Certificates. Educational Certificates Nos. 1665 to 1695 were submitted, and it was resolved That the Secretary be instructed to make further enquiries with regard to Certificate No. 1665.

That Certificates No. 1666 to 1695 be approved. Election of Examiners. The Secretary was instructed to advertise the election of Examiners to take place at the Council Meeting in April next.

Preliminary Educational Examinations. It was resolved: That Resolution 9 (vi) (i) of the Minutes of

October 4th, 1917, be rescinded.

That the University Matriculations be recognised on condition that the pass certificate includes English, Mathematics, and at least two other subjects named in the following list:

Latin, Greek, French, German, or any other approved Modern Language; History, Geography, Natural Philosophy or Physics, Chemistry, Biology, Physical Geography and Geology.

Correspondence. An application was received from Major M. Carroll, asking whether, having completed the greek was refer to be presented by the course for the Degree of R.V.S.c. of the

3rd year of the course for the Degree of B.V.Sc. of the Melbourne University, he would be eligible to sit for the Final Examination for the Diploma of M.R.C.V.S. after one year's attendance at an affiliated College.

It was resolved that: That the applicant be informed that under the present Bye-laws his application cannot

be acceded to.

An application was received from Mr. Amar Nath, a graduate of the Lahore Veterinary College, for exemption from part of the four years' course,

It was resolved: That the applicant be informed that under the present Bye-laws his application cannot be

acceded to.

A complaint was received from a Class A student with regard to the marking of his Written Paper in Biology at the Dublin Examination. The Secretary was instructed to reply after consultation with the examiners.

The PRESIDENT: In the absence of the Chairman, Mr. Mulvey, I propose that the Examination Committee's report be received and adopted.

Dr. McI. McCall: I beg to second that.

The PRESIDENT: It is open for discussion.
There being no discussion, the motion was put and unanimously carried.

Parliamentary and General Purposes Committee

Dr. Bradley read the following report of a meeting held on January 3rd, and moved its reception and adoption:-

Definition of "Veterinary Surgeon" (Transvaal). Correspondence was submitted from Col. J. Irvine Smith, of Johannesburg; and it was resolved: That it be left to the Chairman and Sir Stewart Stockman to draft a reasoned request to the Transvaal Authorities on the point raised.

Ministry of Food: Milk Committee. The Secretary submitted correspondence with the Secretary of the Committee on the Production and Distribution of Milk, and it was resolved: That the action of the Secretary be approved.

Supply of Carbide and Acetylene. The Secretary reported that Veterinary Surgeons were experiencing

difficulty in obtaining supplies of Calcium carbide for motor head lamps, and that after correspondence with the Ministry of Munitions of War he had arranged to receive and transmit applications for such supplies, the Department undertaking to favourably consider such applications and so far as circumstances would allow to release the desired supply. It was resolved: That the

action of the Secretary be approved.

D.A.T.I. Staff Salaries. A communication was received from Mr.T. McGuinness, stating that the improvements in salary and status of Veterinary Officers of the D.A.T.I., which had received the support of the Council, had now been granted.

Mr. Trigger: I will second the motion for the recption and adoption of the report.

The motion was carried unanimously.

Publication, Library, and Museum Committee.

The SECRETARY read the following report of a meeting of the Publication, Library and Museum Committee held on January 4th:

Presentations to Library. The Secretary reported that since the previous quarterly meeting the following

resentations had been made to the Library:
History of Veterinary Literature, Part I., Maj.-Gen.
F. Smith, c.B., c.M.G., F.R.C.V.S.; The Camel and its
Diseases, H. E. Cross, M.R.C.V.S., A.SC., I.C.V.D.; Tips on
Camels, A. S. Leese, M.R.C.V.S.: Uuion of S. Africa,
Report of Veterinary Division, 1915-16; Nyasaland Protertarter Report of Parts of Agricultus (1917). Headed Report of Veterinary Division, 1915-16; Nyasaland Protectorate Report of Dept. of Agriculture, 1917; Uganda Protectorate, Report of Dept. of Agriculture, 1917; S. Australia, Report of Minister of Agriculture, 1916; Punjab Veterinary College Report, 1916-17; Civil Vety. Dept., Bihar and Orissa, Report 1916-17; Manchester Annual Report, M.O.H., 1916; Memoirs of Dept of Agriculture in India: The Vitality of the Rinderpest Virus, A. W. Shilston, M.R.C.V.S.; A Note ou Dourine in the Horse, Col. H. T. Pease, I.C.V.D.; Dom. of Canada, Bulletin 25: Intestinal Parasites of Poultry, A. B. Wickware; U.S. Dept. of Agriculture, Bulletins: Hog/Cholera, The Control of Hog Cholera, A. D. Melvin; Some facts about Abortion Disease, E. C. Schroeder, W. E. Cotton; Slaughterhouse Reform, S. M. Doddington; Agricultura Research Institute, Pusa: A Note on Jhooling in Camels, H. E. Cross, M.R.C.V.S.; The Journal of the Board of Agriculture and Fisheries; Orders and Leaflets; The Journal of Comparative Pathology and Therapeutics; The Revue de Pathologie Comparée; Veterinary Review; Journal of Physiology; Veterinary Journal; The Veterinary Revoew; Veterinary Revoew. Review; Journal of Physiology; Veterinary Journal; The Veterinary Record; Veterinary News; Bloodstock Breeders' Review; Rhodesia Agricultural Journal; New Zealand Journal of Agriculture; Journal of Agriculture, Victoria, Australia; Annali della Stazione Sperimentale per le Malattie infective del Bestrame, Vol. III, Pasc. I and II; The British Medical Journal (per Dr. Bradley);

The Educational Times; The World's Carriers.

Purchases. Tropical Diseases Bulletin; Tropical
Veterinary Bulletin; Il Moderno Zooiatro; Recueil de Médecine Vétérinaire; Schweizer Archiv für Tierheil-

kunde.

It was resolved: That a hearty vote of thanks be

accorded to the respective donors.

Purchase of Periodicals. The Secretary was authorised to renew the subscription to the following Journals, amounting in all to £2 10s.:—Il Moderno Zociatro; Schweizer Archiv fur Tierheilkunde; Recueil de Médecine Vétérinaire.

Register 1918. The Secretary was instructed to incorporate the Annual Report for 1916-17 in the Register

The PRESIDENT: I beg to propose the reception and

adoption of the report.

Mr. Slocock: I will second that. The motion was carried unanimously.

WAR EMERGENCY COMMITTEE.

The SECRETARY read the following report of a meeting of the War Emergency Committee held on Jan. 3:—

Release and exemption of Veterinary Students. The President reported that in accordance with Resolution 15 of the Minutes of Council, Oct. 5, 1917, he had sent the following letter to the Secretary of the War Office, to the Ministry of National Service, and to the Director-General of the Army Veterinary Service.

Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C., 13th October, 1917.

Sir,-I am directed by the Council of the Royal College of Veterinary Surgeons to draw your attention to the fact that, owing to the number of Veterinary Students who enlisted as combatants in 1914 and 1915, and to the enlistment under the Military Service Acts of all Veterinary Students in the first and second years who are of military age, the country, already suffering from a dearth of qualified Veterinary Surgeons, is threatened with a still more serious state of things in the near

The following figures show the number of Veterinary Students who have joined the colours after passing their first professional examination :-

Second year	Students	 67
Third year	,,	 18
Final year	"	 5
		-
		90

It will be seen that as many as 90 students out of the small number in attendance at the Veterinary Schools have had their course of study interrupted and the date of their qualification consequently postponed. In the case of the second year students the earliest date of graduation will be three years after the conclusion of

The following figures show the number of students at present in the schools :-

Due for ex	am.: D	ec., 19	17. Ju	ıly, 191	8
First year		24		37	
Second year		20		17	
Third year	•••	20		28	
Final year		39		29	

It follows that, even if these students were allowed to remain at College, and assuming that they were all successful, the maximum number of graduations would be as follows :-

Dec., 1917	39	July, 1918	29	Total 68
1918	20	1919	28	48
1919	20	1920	17	37
1920	9.4	1921	37	61

These figures must be reduced by at least 25 per cent. to allow for failures.

The average death-roll for many years past has been 75, but since 1914-15 the number entering the profession has been much below this figure. In 1914-15 there were 77 graduates, in 1915-16 there were 56, and in 1916-17 there were 57. It is obvious, therefore, that the number of qualified Veterinary Surgeons has been diminishing by about 20 a year, and the number of new graduates entering the profession in the next few years will be about 30 per annum below the number required to replace deaths, retirements, etc. As a matter or fact, however, an increased number of Veterinary Surgeons will be needed after the war, in order that the work required under the Public Health Acts, the Milk and Dairies Acts, the Tuberculosis Order, etc., may be properly carried out. The State Veterinary Services of the Board of Agriculture and Fisheries and the Department of Agriculture and Technical Instruction for Ireland have long experienced great difficulty in obtaining

a sufficient number of properly qualified men.

As recently as August, 1912, a Departmental Committee was appointed to inquire into the requirements of the public services with regard to the employment of officers possessing veterinary qualifications, and to consider whether any further measures could be adopted for the selection and training of students for such employment. The Committee reported (Cd. 6576), "That the number of suitable candidates for appointments in public services is inadequate," and "That a largely increased number of veterinary officers possessing special qualifications will be required for the public services."

Veterinary Officers are also required for the Colonies particularly in South Africa. At home, the work of prevention of Contagious Diseases of Animals, e.g., Swine Fever, Foot-and-mouth Disease, Glanders, Anthrax, Sheep Scab, etc., is of such vital importance that it is absolutely essential to provide for an adequate number of fully qualified men each year for this work. In addition, the general practitioner as a factor in the conservation of food supply and the maintenance of agricultural progress and prosperity must not be lost the law of supply and demand.

sight of.

The Council recognise that, in a sense, everything is of secondary importance to winning the war. They would, however, point out that the number of men involved is so small as to be practically negligible from that point of view. On the other hand, if the small number of Veterinary Students mentioned could be retained and allowed to qualify, it would make all the difference to the carrying on of the work of the Veterinary Profession after the war.

The Council, therefore, desire earnestly to press upon your attention the importance of safeguarding the supply of qualified Veterinary Surgeons in the near future, and to this end they strongly recommend :-

1. That all Veterinary Students who have passed their first examination now serving with the Navy and Army as officers or privates should be demobilised to continue their studies.

2. That no Veterinary Student at present registered as in attendance at one of the five affiliated schools who has completed his first year of study should be called up

for service with the colours.

As the Veterinary Schools begin their new session in October, and at least 30 weeks instruction must be given before students can be presented for examination, it is extremely important that an early decision be made, so that the students who return to their studies may not be at a disadvantage.

I am, Sir, your obedient Servant, (Signed) FRANK W. GARNETT, President, Royal College of Veterinary Surgeons.

The following letter was received in reply from the Director of Mobilisation:-

> War Office, London, S.W. 1. 15th November, 1917.

19/Releases/1045 (D.R. 2).

Sir,-With reference to your letter of the 13th ultimo, I am directed to inform you that the matter has been referred to the Minister of National Service, and after careful consideration in view of the arguments stated below it is regretted that the recommendations in the latter part of your letter cannot be approved :-

(1) It is estimated that there will be a vast reduction in the total numbers of domesticated animals in the British Empire in consequence of the War and that some years will necessarily elapse before the losses are

fessional assistance and this lesson will only be unlearned in course of time.

(3) Casualties among Officers of the Army Veterinary Corps are practically nil so that while most other professions are being decimated by enemy action the num-bers of Veterinary Surgeons are not being materially affected.

(4) The increased demands (if indeed in view of probable economic depression for a certain period after the War, there is any increased demand) of State services both British and Colonial will easily be met from the large supply of young Veterinary Surgeons without practices that will become available from the Army

Veterinary Corps on demobilisation.

(5) The figures quoted in your letter showing the increase of deaths over graduations are misleading. Not only since 1914-15 but for many years now the death roll has exceeded the graduation in consequence of replacement of horses by motor cars and the consequent falling-off in demand for Veterinary Surgeons. The War has only slightly increased this preponderance in mortality over admittances. It is a clear instance of

I am, Sir, your obedient Servant, (sd.) B. F. BURNETT-HITCHCOCK, The President, Director of Mobilisation. Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C. 1.

To this letter the President had replied as follows: Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C. 1. 26 Nov., 1917.

19/Releases/1046 (D.R. 2).

Sir,-Adverting to your letter of the 15th instant, I regret to learn the decision of the War Office in regard to the recommendation made by the Council. As, however, the arguments on which the decision is based appear to me to be founded on a misapprehension of the aim and meaning of my previous letter, I am compelled to press for a reconsideration of the matter.

1. If your forecast is true that there will be a reduction in the total numbers of domesticated animals in the British Empire, it will be all the more necessary to provide for adequate veterinary supervision over animal diseases for the building up of healthy herds in the period of Reconstruction after the War. It must also be borne in mind that the present unavoidable relaxing of veterinary supervision over contagious diseases in the Empire, caused by the dearth of Veterinary Surgeons, will entail a corresponding increase in the amount of veterinary work required to be done after the War.

2. The suggestion contained in the second paragraph of your letter does not apply to the Veterinary Profession. The "Public" is powerless to deal with epizoetics. Diseases such as Glanders, Anthrax, Foot-and-mouth Disease, Sheep Scab, Swine Fever, Mange, Tuberculosis, demand veterinary control for their combating. public, indeed the resources of the nation itself, can only be safeguarded against great loss in the long run, by the maintenance of a sufficient and vigorous veterinary inspection. The increased value of stock makes this so much the more important.

3. Although the casualties in the A.V.C. have not hitherto been numerous, they are not negligible, since 30 officers have been killed or died on active service. It does not, moreover, affect the question at issue to state that other professions are being decimated. The appeal of the Council is not made for the benefit of the Veterinary Profession, but for the benefit of the State.

made good.

(2) The public has had to learn during the War to rely largely on its own resources for all kinds of pro-

are potential Veterinary Surgeons and who, if not released or exempted, will be used in the combatant forces in which the casualties are admittedly high.

4. The assertion that the demands of State Services both British and Colonial will be easily met by the supply of yorng Veterinary Officers on demobilisation, cannot be accepted as a solution of the difficulties fore-shadowed in my previous letter. A number of these very officers were already engaged in State Services, at home and in the Colonies, before the War, and on de-mobilisation will go back to their posts. But even so, the situation prior to the War will not be relieved, for these State Services were already seriously understaffed. The vast majority of the A.V.C. officers have been taken from practices to which they will presumably return after the War, but the number of recent graduates (who had no practices) will not nearly make up for the natural wastage. In the meantime, both in the Colonies and in this country, important veterinary work is being unavoidably neglected, with consequences which cannot fail to be serious. The situation arising after the War will certainly require the services of Veterinary Surgeons in greater numbers than before.

5. I regret that the figures quoted in my previous

letter should be described as misleading.

The following statistics, taken from the official Register of Veterinary Surgeons, are sufficient to prove that the death roll during the last 16 years, which is the period of the development of motor traffic, has not "exceeded the graduation in consequence of the replacement of horses by motor cars," or indeed for any other cause acting during that period.

	New	Memb	pers on Register
	Graduates.	a	t end of year.
1900	78		3431
1901	87		3382
1902	80		3365
1903	55	•••	3374
1904	84	•••	3411
1905	80		3428
1906	92		3446
1907	80		3384
1908	86		3359
1909	92		3382
1910	93	•••	3423
1911	72		3417
1912	85	•••	3411
1913	61		3408
1914	83*		3425
1915	56 *		3409
1916	52*		3401

It will be seen that there were 3411 members on the Register in 1904, and 3425 in 1914. This was the period of motor development, which did not, therefore, result in any reduction of the number of qualified Veterinary

Surgeons as alleged. Nevertheless the statement made in my previous letter that the number of graduations has seriously diminished in the last two or three years remains true, and the estimate there made that there will be a reduction of about 30 per annum for the next few years remains uncontroverted. The prime cause of this is the enlistment of veterinary students, and not the alleged diminution in the number of horses.

The statement that there has been a "consequent falling off in demand for Veterinary Surgeons" is therefore opposed to the actual facts, and I regret to note that the War Office appears to have ignored my reference to the findings of the Departmental Committee on the Public Veterinary Services in this connection. There has been

not only no falling off in demand for Veterinary Surgeons, but, on the contrary, an increasing difficulty for at least ten years to obtain a sufficient number of qualified men for State Services both at home and in the Colonies, so that much vitally important work has to remain in abeyance. There was also in the years immediately preceding the war a demand for the services of Veterinary Surgeons for every day practice in this country far in excess of the supply.

I would earnestly press therefore for a reconsideration of the appeal of my Council, pointing out once again that the total number of men involved is less than 200, and that consequently the acceptance of the recommendations made would have absolutely no effect on the conduct of the war, whereas refusal would entail results seriously detrimental to the interests of agriculture and to the owners of animals in general, in the period of reconstruction after the war.

I am, Sir, your obedient Servant, (Signed) FRANK W. GARNETT, President of the Royal College of Veterinary Surgeons.

THE SECRETARY (D.R.) War Office Annexe, Whitehall Place, S.W. 1.

The following letter from the Ministry of National Service had also been received:

The Ministry of National Service, Westminster, S.W. 1. 17th December, 1917.

Sir,—In reply to your letter of the 13th October with reference to Veterinary Students, I am instructed by the Minister of National Service to state that the recom-mendations made by the Council of the Royal College of Veterinary Surgeons have been carefully considered.

As regards Veterinary Students now serving with the Army as Officers or Privates, this Department will be prepared to recommend to the War Office the release of any students who have passed their first veterinary examination provided they are not being employed in the Army on veterinary work and are in a medical category below B1, or in the case of officers, are not fit for service overseas, and I am to request that the Royal College of Veterinary Surgeons will furnish this Department with particulars of any officers and men now serving who comply with the above conditions and whose release is desired. This Department would also be prepared to consider the cases of veterinary students who have passed their first veterinary examination and are now serving in the Navy with a view to recommending their release if, on enquiry, it is found that their services can be spared by the Admiralty.

As regards second year veterinary students who are now studying at one of the affiliated schools referred to in your letter, I am to remind you that under current instructions such students are protected from military service provided they are, if over the age of 31 on the 25th February last, in a category lower than "A" and, if under that age, in a category lower than B1, and for the time being any man who is placed in Grade 2 by a National Service Medical Board is for the purposes of these instructions treated as being in a category lower than B1. It is presumed that the second year students now studying in the schools are, with possibly a few exceptions, already protected under these instructions and in view of the urgent need of the Army for men in the higher Medical categories Sir Auckland Geddes is not prepared to extend the protection already given to veterinary students now in civil life.

I am to add that in the immediate future it is thought that the reduction in the number of cattle in Great Britain should relieve the situation as regards the need

^{*} These figures are for the calendar year; those given in my previous letter were for the school year.

of veterinary surgeons, and demobilisation after the war will release a considerable number of men who are now employed in the Army as Veterinary Surgeons.

I am, Sir, your obedient servant, (Signed) J. M. Balfour, Assist. Secretary.

The SECRETARY,

The Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C. 1.

It was resolved: That the action taken by the Presi-

dent be approved.

That a further appeal be made to the War Office and the Ministry of National Service, pressing for the maintenance in the veterinary colleges of a sufficient number of students to allow of an annual accretion to the Register of about 80 graduates.

Territoial Force, A.V.C. The Secretary reported that he had been informed by the Assistant Financial Secretary to the War Office that no decision had yet been reached on the subject of the position of officers of

the Army Veterinary Corps Territorial Force.

It was resolved: That the application for the equalisation of pay for officers in the A.V.C. (T.F.) and those

holding temporary commissions be renewed.

That an additional appeal be made on behalf of officers holding temporary commissions who, on being drafted to India or Mesopotamia, have their pay reduced to 15s. 6d. per day.

Correspondence. A letter, dated Dec. 18, 1917, was received from Mr. G. P. Male, conveying the following resolution of the Royal Counties V.M.A.:—

"That in view of the great scarcity of veterinary surgeons, especially in country districts, the members of this Association think it advisable that the matter of exempting veterinary surgeons should be left to the discretion of local Tribunals, knowing as they do the conditions prevailing in their particular districts.

The Secretary was instructed to reply that the question of exemptions to veterinary surgeons is a matter which remains entirely at the discretion of the local Tribunals.

Information was received regarding the exemption of a third-year student who was acting as locum tenens for an unqualified practitioner. The Secretary was instructed to communicate with the authorities pointing out the facts, and requesting that the certificate of exemption be reviewed.

The PRESIDENT: I propose that the War Emergency Committee's report be accepted, and in doing so I want to point out that, although I signed those letters on your behalf, they were considered and drafted by the Sub-Committee that you appointed at your last meeting-that is Sir John M'Fadyean, Dr. Bradley, and

Sir John M'Fadyean: I will second the motion. The motion was carried unanimously.

The President: I think the whole matter pretty well explains itself.

Mr. TRIGGER: I should like to congratulate the Committee on the very excellent case they have submitted. I think it is an unanswerable case.

The President: Will you propose the adoption? Mr. Trigger: Yes, I will.

Mr. LAWSON: I will second it.
Mr. BARRETT: You used the expression "India and Mesopotamia" with regard to pay, and I would ask why not use "Foreign Service, which expresses everything.

The President: The term does not embrace foreign It is only those two places that come under service. the Indian command, and it only applies to the pay of the Captain.

Mr. BARRETT: I see.

The motion for the adoption of the report was unanimously carried.

HONOURS AND PRIZES COMMITTEE.

Mr. Banham read the following report of a meeting of the Honours and Prizes Committee held on Jan. 3:— Williams Memorial Prize. The report of the Auditors was submitted, showing that Mr. R. W. M. Mettam, of the Royal Veterinary College of Ireland, Dublin, gained the highest number of marks in the Final Year Examination, 1917, and it was resolved: That the Williams Memorial Prize for 1917 be awarded to Mr. R. W. M. Mettam.

Mr. Banham: I propose that the report be received

and adopted.

Mr. BARRETT seconded the motion, which was carried

uuanimously.

The PRESIDENT: Is there any other business, Gentlemen? If not, that concludes the business of the Ordinary Meeting, and we have now to hold a Special Meeting.

SPECIAL MEETING OF COUNCIL.

Following the Ordinary Quarterly Meeting a Special Meeting of the Council was held for the purpose of a motion with regard to the alteration of Bye-law 56.

The minutes of the last special meeting were taken as

read, and confirmed.

The President: I will formally move the resolution standing in my name: "That Bye-Law 56 be altered to

read as follows

In the case of each and every person summoned by the Council of the Royal College of Veterinary Surgeons to defend a charge of 'conduct disgraceful to him in a professional respect,' who shall enter a defence, a report of the charge and the defence shall be kept by the Secretary." It is just an alteration of the Bye-law.

Mr. BANHAM: How does it differ from the present

Bye-law?

The Secretary: It is omitting certain words. Dr. Bradley: I will second that motion.

The motion was unanimously carried. The PRESIDENT: That concludes the business, Gentlenen, and I have to thank you for your attendance today, and I wish to all a very happy and prosperous New Year. I sincerely hope that we may meet under happier circumstances before the year is out.

The Secretary: A confirmatory meeting has to be held between the 12th and the 18th of January

It was agreed that the confirmatory meeting should

be held on Thursday, 17 January, at 4 p.m.

Mr. TRIGGER: I beg to propose a hearty vote of thanks to the President for his conduct in the Chair.

Mr. CARTER: I beg to second that, and also, on behalf of the Council, to wish him a happy New Yearreturning his compliment. The motion was carried unanimously.

(The Council then adjourned).

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918 :-

J. Abson, Major A.V.C. (T.F.)	£1	1	0	
N. Almond, Kingston-on-Thames	1	1	0	
R. G. Anderson, Major A.V.C. (T.F.)	î	î	0	,
A. Baird, Major A.V.C. (T.F.)	-	•	ō	
M. Barlow, Bray	1	L	0	
	1	1	0	
J. R. Baxter, Lechlade	1	1	0	
S. Beeson, Hereford	1	ī	ŏ	
J. G. Bell, Carlisle	î	•	ŏ	

J. H. Bennett, Romford	1 1	. 0	R. H. H. Over, Rugby E. W. Parks, Maj. A.V.C. (T.F.) C. F. Parsons, Cheltenham J. Paton, Stevenage H. Pollard, Wakefield H. J. R. Pope, Holland Park Avenue, W. 11 T. S. Price, Brixton Hill, S.W. W. D. Rees, Trealan, Glam. W. L. Richardson, Wadebridge E. Ringer, Leamington Spa A. Robb, Glasgow A. Robb, Glasgow G. A. Roberts, Capt. A.V.C. W. Robb, Glasgow G. A. Roberts, Capt. A.V.C. M. Robinson, Barnsley E. A. Rucker Esher F. G. Samson Upper Mitcham E. Sayer, Newport R. Scott, Hawick C. H. Sheather, Capt. A.V.C. C. Sheather, Regent's Park, N.W. J. H. Shepherd, Guildford S. L. Slocock, Capt. A.V.C. A. Snodgrass, Strabane, Co. Tyrone J. Soulsby, Cockermouth J. Spruell, Capt. A.V.C. C. H. Spurgeon, Petworth W. P. Stableforth, Honiton W. P. Stokes, Capt. A.V.C. J. W. Sugden, Southminster J. H. Taylor, Major A.V.C., M.C. F. T. Trewin, Watford J. B. Tutt, Winchester J. Varney, Winslow A. Weighton, Hull S. Wharam, Leeds G. Whitehead, Batley, Yorks J. Willett, Harley Place, N.W. P. Wilson, Lanark S. A. Winkup, Montgomery, N. Wales T. Wolsey, Haslemere (1917 and 1918) E. E. Wood, Eccles J. S. Wood, Maj. A.V.C. (T.F.) J. Woodger, Chiswick, W. W. Woods, Wigan T. W. W. Wright, Capt. A.V.C. J. B. Young, Braintree T. D. Young, Major A.V.C. (T.F.)	1	1	Į
R. Bennett, Capt. A.V.C. (T.F.)	1 1	0	E. W. Parks, Maj. A.V.C. (T.F.)	1	1	
C. G. S. Bogue, Capt. A.v.c.	1 1	0	C. F. Parsons, Cheltenham	1	1	
. G. Bond, Plymouth	1 1	0	J. Paton, Stevenage	1	1	
Brear, Capt. A.V.C.	1 1	0	H. Pollard, Wakefield	1	1	
. Broad, St. John's Wood	1 1	0	H. J. R. Pope, Holland Park Avenue, W. 11	1	1	
. S. Brooksbanks, Manchester	1 1	. 0	T. S. Price, Brixton Hill, S.W.	1	1	
Bryden, Capt. A.V.C. (T.F.)	1 1	. 0	W. D Rees, Trealan, Glam.	1	1	
B. Buxton, Herne Hill, S.E.	1 1	0	W. L. Richardson, Wadebridge	1	1	
S. Carless, Capt. A.V.C. (T.F.)	1 1	. 0	E. Ringer, Leamington Spa	1	1	
. L. Carter, Goswell Road, E.C.	1 1	. 0	A. Robb, Glasgow	1	1	
H. Carter, Burnley	1 1	0	A. Robb, Jun., Capt. A.V.C.	1	1	
. H. Caton, Mile End Road, E.	1 1	. 0	W. Robb, Glasgow	1	1	
roi. 1. W. Cave, Ashiord, Kent	1 1	0	G. A. Roberts, Capt. A.V.C.	1	1	
C. Coleman, Swindon	1 1	. 0	M. R. Odinson, Barnsley	1	1	
Dela Comenter	1 1	. 0	E. A. Rucker Esner	1	1	
Dale, Coventry	1 1	. 0	F. G. Samson Opper Mitcham	1	1	
Direct Blowden on True	1 1	. 0	D. Sayer, Newport	1	1	
I Down Sampford Pavarill	1 1	. 0	C H Sheether Cent AVG	1	7	
Dungton Liekaard	1 1	. 0	C Shoother Recent's Park N W	1	1	
T Edwards Neath Glam	1 1	0	I H Shanhard Guildford	1	1	
I Evans Rangor N Wales	1 1	0	S. I. Slocock Cant Av. c.	1	1	
J. J. Foreman, Leadgate	1 1	0	A Snodgrass Strabane Co Tyrone	i	i	
Forwell Lieut, A V.C.	1 1	0	I Soulsby Cockermouth	1	î	
Gair Dingwall	1 1	0	I Spruell Capt A V C	1	1	
C. Gaunt. Capt. A.V.C. (T.F.)	i i	0	C. H. Spurgeon. Petworth	1	1	
H. Gibbings. Tavistock	îî	Ö	W. P. Stableforth, Honiton	i	ì	
T. Giblin. Rochdale	1 1	0	W. P. Stokes, Capt. A.v.c.	î	1	
Gibson, Capt. A.V.C. (T.F.)	1 1	0	J. W. Sugden. Southminster	1	1	
C. Gillard. Capt. A.v.c.	1 1	0	J. H. Taylor, Major A.V.C., M.C.	1	1	
S. Gillespie. Lieut. A.V.C.	1 1	0	F. T. Trewin, Watford	1	1	
. W. Godwin, Brevet Major A.v.c.	1 1	0	J. B. Tutt, Winchester	1	1	
. C. D. Golledge, Bd. of Agric., Whitehall	1 1	0	J. Varney, Winslow	1	1	
Gorman, Shorncliffe	1 1	0	A. Weighton, Hull	1	1	
I. Greenfield, Major A.V.C.	1 1	0	S. Wharam, Leeds	1	1	
7. Gray, Ilford, Essex	1 1	0	G. Whitehead, Batley, Yorks	1	1	
. L. L. Hart, Capt. A.V.C.	1 1	0	J. Willett, Harley Place, N.W.	1	1	
. Hatch, Hampstead, N.W.	1 1	0	P. Wilson, Lanark	1	1	
V. C. Hazelton, Buckingham	1 1	0	S. A. Winkup, Montgomery, N. Wales	1	1	
. W. Heelis, Capt. A.V.C.	1 1	0	T. Wolsey, Haslemere (1917 and 1918)	2	2	
L. B. Hiles, Worcester	1 1	0	E. E. Wood, Eccles	1	1	
. Hoadley, W. Hartlepool	1 1	0	J. S. Wood, Maj. A.V.C. (T.F.)	1	1	
. Hogg, Capt. A.V.C.	1 1	. 0	J. Woodger, Chiswick, W.	1	1	
S. Howard, Capt. A.V.C.	1 1	0	W. Woods, Wigan	1	1	
7. Hugnes, Holywell, N. Wales	1 1	. 0	I. W. W. Wright, Capt. A.V.C.	1	1	
T. H. Ison, Atherstone	1 1	. 0	T. D. Young, Major t H G (T. P.)	1	1	
H. H. Johne, Major A.V.C.	1 1	. 0	Drawiowaly asknowledged	0	1	
. King, Lower Kennington Lane, S.E.	1 1	0	rreviously acknowledged	0	Ð	
V. S. King, Limehouse, E. V. Kirk, Bedford Square, W.C.	1 1	. 0	<u>-</u>	143	16	
L. Little, Capt. A.v.c.	1 1	. 0	2	140	10	
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. Lockwood, Peterborough C. Lowe, Bermondsey, S.E.	1 1 1		ARMY VETERINARY SERVICE			
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McKinna, Huddersfield	i i					
. R. McKinna, Capt. A.V.C.	1 1	Ö	War Office, J	an I	let	
Maguire, Liverpool	îi		The King has been pleased to approve of the			
W. Makinson, Capt. A.v.c.	îî		rewards for distinguished Service in the Fie			
Malcolm, Birmingham	1 1		Jan. 1):—	10		
Malvisi, Hornsey Marks, Capt. A.V.C.	îi					
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Marks, Capt. A. v.C.	1 1		T. Capt. Oswald Dixon, E.A. Vet. Corps; Capt			
Marrison, Bakewell			Finch; T. Capt. Granville Hooper-Sharpe, R			
Marrison, Bakewell	1 1		Serv.; T. Capt. Ernest Edward Jelbart;			
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Extracts from London Gazette, WAR OFFICE, WHITEHALL, Jan. 4.

REGULAR FORCES. ARMY VETERINARY CORPS. Temp. Lt. to be temp. Capt.:—M. J. Killelea (Nov. 27, 1917).

Temp. Lt. E. J. Lukey relinquishes his commn. on termn. of engagement (May 24, 1917). (Substd. for the notification in *Gazette* of July 11, 1917).

Jan. 8.
Lt. (on prob.) J. W. Beaumont is confirmed in his rank.
T. Qrmr. and Hon. Lieut. to be Hon. Capt.:—C. Stephens
(Dec. 19, 1917).

Jan. 9. Capt. (temp. Maj.) C. G. Saunders, Can. A.V.C., to be a Dept. Asst. Dir. of Vet. Servs. (graded for purposes of pay as a D.A.D.V.S. of Grd. Servs.) and to retain his temp. rank whilst so empld. (Aug. 10, 1917). (Substituted for notification regarding this Officer in the Gazette of Dec. 15, 1917).

SPECIAL RESERVE OF OFFICERS.

Jan. 4. Capt. J. M. Armfield resigns his Commn. (Jan. 5).

The following casualties are reported:—
DIED OF WOUNDS—Major H. M. Williams.
WOUNDED—Capt. J. J. Dunlop, M.C.

ORDER OF THE BRITISH EMPIRE.

War Office, Jan. 7.
The King has been graciously pleased to give orders for the following promotions in and appointments to the Most Excellent Order of the British Empire (dated Jan. 1) for services in connexion with the war:—

ORDER OF THE BRITISH EMPIRE. COMMANDERS (C.B.E.)

Frank Walls Garnett, Esq., J.P., President of the Royal College of Veterinary Surgeons.

Officers (O.B.E.) Brevet Major John Wakefield Rainey, Army Vet. Corps.

MEMBERS (M.B.E.)
Herbert Mason, Esq., Inspr. in Vety. Servs. of Min. of Agric., Egypt.

Albert Edward Boyer, Esq., M.R.C.V.S., Conducting Officer, Horse Transport Duty.

Personal.

DIBBEN.—On Jan. 23rd, at Burgess Hill, to Margery, wife of Lt.-Col. H. C. Dibben, A.v.c., twin daughters, prematurely, one surviving birth by 24 hours only.

OBITUARY.

DUNCAN C. CAMPBELL, M.R.C.V.S., Knott Mill, Manchester. Graduated, Edin: 1895.

Mr. Campbell died 27th December, 1917, aged 43.

JOHN ALEXANDER TODD, M.R.C.V.S., West Kirby, Chesshire. Glas: 1896.

Mr. Todd died at Auchencorvie Schoolhouse, Campbeltown, Argyllshire, on 31st December, 1917, aged 46. He will be best remembered in the profession as the popular and genial Secretary of the Southern Counties Veterinary Society, whilst he was in practice in Worthing, and its members will learn with regret of his early death.

its members will learn with regret of his early death.

Mr. Todd leaves a widow, Catherine Lyall Todd,
Albert Park, Kilcreggan, Argyllshire, and, we believe,
several young children.

THOMAS WRIGHT, M.R.C.V.S, Lower Richmond Road, Putney, S.W. Edin: 1881.

A correspondent sends us the following note:—
Mr. Wright had been in general practice in Putney for a number of years, and having during the last Boer War acted as Transport Veterinary Officer, he offered, in October, 1914, his services to the War Office in a similar capacity. From that date to the beginning of 1917 he made many voyages between Britain, America, and other countries. He then for a time acted as Civil Veterinary Surgeon to the Woolwich Remount Depot. His health, however, already undermined by his experiences afloat, gave way, and he was forced, on medical advice, to resign.

Death occurred on January 1st at Nottingham where he had gone on a visit to his son-in-law; and interment

at Manchester on January 5th.

Mr. Wright was 62 years of age and leaves a widow, two daughters, three step-daughters and a son, Capt. T. Lewis Wright, A v.c., who is serving in Mesopotamia.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

			Anth	rax	and-1	ot- Iouth ase.	Glan	ders.†	Para Mar	sitic ige. ‡		Swine	Fever.		
I	Period.				Out- breaks (a)	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.	Week	ende	d Jan	. 5	8	9			1	2	147	293	22	22	6
Corresponding week in		19	917 916 915		20 15 21	20 15 21			1	5	81 65	194 152	23 33 18	43 90 97	16 220 461

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive.

(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Jan. 8, 1918

† Counties affected, animals attacked:— Stafford 2

Excluding outbreaks in army horses.

IRELAND. Week	ended Jan. 5			 	 	Outbreaks 4	17	***	111
Corresponding Week is	$ \begin{cases} 1917 & \dots \\ 1916 & \dots \\ 1915 & \dots \end{cases} $	1	 5	 	 	1 3 	20 13 10	3 1 3	13 5

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 7, 1918.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1541.

JANUARY 19, 1918.

VOL. XXX.

SCHEDULED DISEASE IN 1917.

The Board of Agriculture returns, 1917, for scheduled disease in Great Britain, completes the work of a year which may fairly be called a success-

ful one under difficult conditions.

There was no visitation of foot-and-mouth disease throughout the year-a fact for which we cannot be too grateful. Anthrax further declined to 421 outbreaks, as against 551, 575, and 722 for 16-15-14 respectively. There are reasons for feeling some distrust of these figures; but so far as they go they are satisfactory. Only 24 outbreaks of glanders occurred as against 46, 49, and 97 in the preceding years. Re-infection from the army after the war is now the only difficulty we have to anticipate in the eradication of glanders.

Swine fever shows considerable decrease. There were only 2104 outbreaks in 1917, as against 4288, 3994, and 4356. Here again, various reasons make it possible that the figures may not be conclusive; but our outlook as regards this disease seems more hopeful than ever before. Serum treatment, which enables pig life to be saved, and breeding to be carried on upon premises where the disease exists,

must be a considerable economy.

The other two diseases show unfavourable returns. Sheep-scab rose to 543 outbreaks as against 381, 257, and 226. The disease was on the increase late in 1916; and its great prevalence in the early months of 1917 is the cause of the high total at the end of the year. During the latter half of 1917 we gained distinctly upon the corresponding 1916 figures; so at present the position seems reassuring.

Parasitic mange also shows a rise-2596 outbreaks as against 2104 in 1916, which is the only other year since the war began for which complete returns are available. Probably this increase is solely due to war conditions, and we can hardly hope for a speedy improvement; but the present

rate of increase is not serious.

The Board's Veterinary Staff deserves congratulation. Each successive year of war inevitably renders the task of controlling animal disease more difficult; but the returns indicate that every scheduled disease is being kept within bounds. We have heard much recent criticism of permanent Government officials, some of it not without cause; but those at the Board of Agriculture are doing their work well.

APPLICATIONS FOR CARBIDE OF CALCIUM.

The official circular is reprinted on p. 300. It will be seen that application has to be made on specified forms

- to be obtained locally, and forwarded to R.C.V.S., 10

Red Lion Square. If the particulars given are considered condition.

satisfactory, permission is given to purchase—but this p.M. applications of the property of the propert does not guarantee a supply.

UTERINE TORSION IN THE COW, MARE, AND CAT.

By WM. PAUER, M.R.C.V.S., Blackwater, Hants.

Case I. Shorthorn cow.

History. Due to calve with third calf; had given birth to previous calves with no difficulty. Owner informed me that she had commenced to show signs of calving four days previous to my visit on Jan. 7th last, and that she had had labour pains at

frequent intervals during those days.

Symptoms. Usual labour pains. Examination showed that the vagina was in a dry condition and was almost closed towards the os; by using considerable pressure the hand could be forced into the uterus, the os being just sufficiently open to admit it, the head and fore feet of a dead calf could be felt, the position of the fœtus being upside down, so that the intermaxillary space of the head was uppermost.

Diagnosis. Torsion of the uterus, but neither I nor my assistant, Mr. Beaumont, were able to determine from the condition of the os in what direction the twist was. I was inclined to think it

was from left to right.

Treatment. I decided to roll the cow over three times in the direction left to right, and in the event of its not being successful to roll her the other way. On exploration after three complete rolls, I found the condition much worse and it was impossible to insert a finger into the os. I then rolled her over once in the reverse way, and while preparing to do so again she ejected a large mass of fœtal membranes with huge quantities of blood-stained water with a very offensive smell. Examination then showed the condition of the vagina and os normal, with a normal position of the fœtus. I hoped for an easy delivery but was disappointed, as it could not be carried out owing to the enormous size of the calf, due to its emphysematous condition.

Remarks. I am of the opinion that there would have been no difficulty in getting the calf away had

I been called in three or four days earlier.

From this case, I form the conclusion that it is necessary to roll the animal over sharply in order to reduce the twist; a gentle roll over has, I think, little or no effect. I also, in future, would make an examination after each roll, since it would enable one to obtain the correctness or otherwise of the roll. From the foregoing treatment one roll would

appear to have been sufficient.

Case II. Mare. Was requested to make a p.m. for an Insurance Co. some years ago. I give notes

from my clinical case book.

Subject. Hackney mare, five years old, in good

P.M. appearance. On incising abdomen about a quart of blood-stained fluid escaped; abdominal peritoneum highly inflamed; the uterus contained fully developed feetus in a normal position, except that the off fore leg was bent back at the knee. Uterus acutely inflamed and walls much thickened, cervix of the uterus showed a complete twist to the right. On incising the vagina, it was found impossible to get even the finger into the uterus owing to the twist.

Case III. Cat.

Subject. Brown Persian cat in good condition, about due to have kittens.

History. Had previously given birth to several lots of kittens without difficulty.

Symptoms. Apparently in great agony, the animal being in so much pain that she was destroyed immediately.

Post-mortem. Intensely inflamed uterus which contained four kittens; three complete twists in uterine neck.

PYÆMIA.

Subject. Bay gelding, light draught, ten years old.

History. Admitted to hospital 18th Nov., 1917, suffering from a shell wound, off forearm, and debility.

On the 29th Dec. the animal was reported off feed, and on examination presented the following symptoms: Temperature 102°, pulse 100 and strong, respirations normal, slight stiffness of gait with no inclination to move, dulness and entire disregard for surroundings, slight pallor of visible mucous membranes. A small quantity of dung passed.

Treatment. Administered four drachm physic ball, and had animal placed in a loose box.

Dec. 30th. Slight purgation, temp. 103°, pulse strong, 90, periodic salivation, inappetence, nosed food; animal inclined to lie with all legs extended; some blood clots noticed in the urine. Examination of the internal urinary organs was negative, although palpation of the abdomen was resented. On examination per rectum the animal pressed a good deal, nothing could be felt in the a semi-fluid sanio-purulent mass. bladder; an enormous mass could be felt in the region of the left kidney, manipulation of which caused pain; a similar though smaller swelling was felt on the right side.

As a result of this examination I considered the Priesz-Nocard bacillus in pure culture. case hopeless, but prescribed one Ammon. carb. ball every two hours, and adopted a waiting policy.

Dec. 31st. Animal still very dull and disinclined discussion. to move, lying most of the time, appetite in complete abeyance, drank a little chilled water. I was unable to get any further information as to the passage of urine or otherwise although a careful watch for same was kept.

Jan. 1st. No change; showed at times sympgreat pain, and when seen by me at 10.30 p.m. was dead. I was assisted at the post-mortem by Lieut. | fection was by the lymphatic stream. R. W. M. Mettam, A.v.c., who has supplied the following details, and the result of bacteriological examination.

On opening into the abdomen a large Autopsy. amount of fluid escaped, some of which was collected for further examination. This fluid was thin and watery, of a greyish-green colour and very disagreeable odour. Peritonitis was marked, especially over the large colon, and old adhesions were present between the liver and diaphragm. liver was normal in size, but presented several areas of fatty degeneration up to the size of a fiveshilling piece. The spleen was small and cirrhotic.

The mesenteric lymph glands were enlarged, congested, and of a dark blue colour. On section they showed no purulent centres nor any necrosis.

The main pathological lesions were found in the urinary system. The left kidney was very large, and in size and shape resembled a Rugby football. Unfortunately it was not weighed, owing to being ruptured during manipulation. Section showed several abscesses which occupied nearly the entire cortex. The abscesses were filled with a thick, glutinous, sticky, greenish-yellow pus and necrotic renal tissue. In order to accommodate its vast size the kidney had burrowed into the psoas muscles and lay there in a pocket.

The right kidney was not] so large, but was greatly increased in size. Its true size could not be ascertained as one of its abscesses had ruptured prior to death and discharged into the peritoneal cavity. This kidney also showed several abscesses containing pus similar to that described in the other, and was accommodated in a pocket in the psoas muscles. The bladder was empty. Its mucous surface was in places deeply congested. Embolic purulent areas of pneumonia were found in the lungs. Sections of the purulent zones showed the lung parenchyma to be necrotic and converted into a sanio-purulent fluid-like mass.

The heart was very large, and the left ventricle greatly hypertrophied, the ventricular wall being nearly four inches thick on section. The bicuspid valves were thickened. The pericardial gland was increased, and the surface of the heart congested.

The popliteal lymph gland off hind limb was found to be as large as a saucer and converted into Nothing abnormal was noted on the exterior or subcutaneous tissues in this region.

Bacteriogical examination of pus taken from renal abscesses and from the peritoneal fluid showed

Remarks. This case presents many features of an obscure nature, and is one very suitable for

One of the most striking features about the case was the few symptoms presented where such multiple and extensive lesions existed. Perhaps the most interesting lesion was that found in the popliteal lymph glands. In infection due to the bacillus of Priesz-Nocard, regional lymphatic glands do not toms of slight abdominal pain. At 10.20 p.m. the present such important symptoms as in the case of animal was reported as blowing very hard and in glanders or epizootic lymphangitis; nevertheless, in this case it seems obvious that the mode of in-

J. Fox, Capt. A.v.c.

January 7th.

NORTH MIDLAND VETERINARY ASSOCIATION.

[NATIONAL V.M.A.—NORTHERN BRANCH.]

A meeting was held at the Grand Hotel, Leopold Street, Sheffield, on Tuesday, November 27th, when the following members were present:—Mr. T. C. Fletcher, Sheffield (President) in the chair; Messrs. H. Thompson, S. E. Sampson, S. H. Nixon and J. S. Lloyd (Sheffield); W. Collinson (Anston), R. Hudson (Retford), M. Robinson and C. S. Smith (Barnsley), and F. L. Somerset Chesterfield.

Apologies were received from Messrs. Clarkson and

Marrison.

The minutes of the last meeting, which had been published in the veterinary journals, were taken as read, and on the motion of Mr. Somerset, seconded by Mr. Robinson, were signed by the Chairman as correct.

A report of the Council meeting held on October 23rd

was read, and on the motion of the President, seconded

by Mr. Thompson, was confirmed.

Capt. G. E. Oxspring, A.V.C., was proposed by Mr. Sampson as a new member of the association. This was

seconded by the President and carried unanimously.

The Hon. Treasurer made a statement as to the financial position of the association, and the Hon. Secretary was instructed to write to certain members who were in arrear with their subscriptions.

ELECTION OF OFFICERS.

President. Mr. F. L. Somerset proposed that Mr. W. Collinson, of Anston, be elected President for the en-He stated that Mr. Collinson was a good suing year. attender at the meetings, had read papers before the association, and had done everything in his power to make the association a success. He thought they could make no better choice. Mr. C. S. Smith seconded this proposition, and it was supported by the President, and carried unanimously.

Mr. Collinson, in accepting the position, thanked the members for his election, and promised to do his best to

help the association in every way.

Vice-Presidents. Mr Fletcher, as past-President, becomes one of the Vice-Presidents; and he proposed that Messrs. Hudson and Nixon should be the other Vice-Presidents. This was seconded by Mr. Robinson, and was carried.

Hon. Treas., Hon. Sec.: On the motion of Mr. Sampson, seconded by Mr. Hudson, Mr. Thompson was reelected Hon. Treasurer, Mr. Lloyd Hon. Secretary, and Messrs. Bowett and Marrison, Auditors. They were also

thanked for their past services.

The Council were elected as follows :- G. J. Furniss, W. Murgatroyd, M. Robinson, S. E. Sampson, C. S. Smith and F. L. Somerset, with the President, past-President, Vice-Presidents, Treasurer, Secretary and Auditors (ex-officio).

Mr. S. E. Sampson brought forward the resolution of the Yorkshire Veterinary Society relative to the hereditary predisposition to canker in horses feet. He stated that the subject had been fully discussed by the Yorkshire Society, who considered that it ought to be venti-lated by other societies with a view to getting a definite opinion for, or against. Mr. Sampson personally thought

only predisposed horses would get canker.

Mr. Thompson thought canker usually succeeded grease, and stated that canker could be cured. He gave instances of cases which had been cured; some in as short a time as three weeks, others varying to two months. Mr. Somerset said he could not vote in the affirmative at present, as he thought canker was more acquired than hereditary. Mr. Hudson could not call to mind cases which would make him think it hereditary. from the carease was negative. The carease looked to

Breed he thought might predispose. He had usually seen it in the heavy breeds. Mr. Collinson thought environment and neglect were the most likely causes. Mr. S. H. Nixon agreed; adding that he thought neglect of the feet played a great part in the cause of canker.

Messrs. Thompson, Smith and the President could

not agree that canker was hereditary. The President added that he could not trace a case to either sire or

dam. The first part of the resolution was put to the vote, two voting for and eight against.

Mr. Somerset then proposed "That in the opinion of this meeting canker is not a hereditary disease, and therefore the association cannot support the Yorkshire resolution." This was seconded by Mr. Thompson, and upon being put to the vote was carried by eight for, to two against.

The members then retired and took tea at the invitation of the Sheffield members, and upon resuming, Mr.

Robinson read the following notes :-

Notes on Interesting Cases By Mr. M. Robinson, Barnsley.

High temperature in the horse. Subject: a cart horse belonging to one of our local Councils. I was asked to see this horse one evening, and found it had a temperature of 109.8° F. This temperature steadily declined to normal on the third day. Previous to my being called in the horse had been working as usual, had eaten its food, and an hour afterwards had commenced shivering. Two months afterwards this horse had a similar attack. The only treatment I gave the animal was diffusible stimulants.

Pony twice affected with Tetanus. The subject was a pit pony with a wound on the head. About nine days after injury the animal showed symptoms of tetanus, and under treatment recovered. Several months after it was again injured on the side of the foot. Tetanus followed. It made a much slower recovery this time, but eventually returned to work. On both occasions I gave bromide of potassium in sloppy mashes and prussic

acid per rectum.

Foreign body in bullock's mouth. I was attending another case at a farm, when the farmer asked me to look at a bullock. He said, "as you are here you might as well look at it, but I do not think it is any use as it is 'tubered.' Two months ago it was the fattest thing about the place and now it is a skeleton." At the first glance I was of the same opinion as my client, but upon examining the animal's mouth I found a bone about 3 inches long wedged between the root of the tongue and the lower jaw. It was so fast that I had to get some pincers to remove it.

I had another similar case which the owner had been treating for some weeks for Actinomycosis. In this case I found a piece of bramble stem about one foot long fast under the tongue. After removal, both animals

made good recoveries.

Strangles. Mr. Robinson related the history of an outbreak of Strangles among a number of horses and occurring at several farms. At one of the farms all the horses, except a yearling cart filly, were affected in a similar way, strangle abscesses were situated about the head, neck, shoulder and withers. All recovered. Treatment was Anti-streptoccine; the abscesses were brought to a head and lanced.

Anthrax. 1 was requested by the Police to examine the carcase of a bullock which had been slaughtered and dressed, and which had been reported as a suspicious case. I was informed that this animal was the last to be killed of five or six cases in a week, and that three people were laid up in hospital in connection with the outbreak. A microscopical examination of the blood be good beef and all the organs were healthy. I visited the farm next day with the Police, and upon questioning the farmer I found that several beasts—five or six out of a herd of 18 bullocks and heifers—had been slaughtered during the week (a lot worse than the one I had come to make enquiries about, so he told me). I found four bullocks with temperatures of 106 to 107°. These were treated by febrifuge medicine and all recovered.

In another herd of ten or eleven cows I found several unwell, the temperature about the third day rising to 100°F. The only history in this case was change of food some days before. On the 9th one cow died in which anthrax was confirmed. The owner was a butcher and dairyman. Another case occurred in a milking cow. In the morning the cow was milked as usual, and part of the milk was drunk by two invalids. At one o'clock mid-day the cow died, and was certified to be affected with anthrax. Nothing happened to the two invalids who had drunk the milk.

Another instance was a cow with a second calf died with Black-quarter, this occurred during an outbreak of anthrax on the same farm. A sow, a mare, and the farmer had anthrax. The mare's temperature was 107°F. The sow had a temperature of 106°F, and was affected by eating the carcase of a cow which died suddenly a week before. Next morning both the mare and sow had swollen throats, a fallen temperature, and colicy pains. Death ensued during the day. In each case anthrax

was confirmed.

DISCUSSION.

The President stated that he had not recorded a temperature of 109° in a live horse, although he had had a temperature of 110° in the lungs of a horse affected with septic pneumonia. He had, however, seen a temperature of 108°F in a colt four months old. This became normal in 24 hours, and appeared to him to be caused by acute indigestion. Mr. Sampson had seen a temperature of 108° F in a pony, which died the same day. This may have been due to congestion of the lungs, or to indigestion. Unfortunately there was no post-mortem examination. Mr. Collinson had seen a temperature of 108° F in a cart mare which was shivering and blowing. Next morning this mare had a big leg—affected with lymphangitis. Mr. Thompson had seen animals with high temperatures which in many cases had become normal in the course of a day or two.

Mr. Hudson had experience of a case in which the animal was blowing rapidly, with a high temperature. This fell rapidly, then rose again; finally the animal recovered. He thought the probable cause of the fever was a chill. Mr. LLOYD mentioned that the highest temperature he had recorded in an animal was in a cow

with retention of placenta.
Tetanus:—Mr. Thompson mentioned a case where an animal had two attacks of tetanus and died in the last attack. Mr. Collinson related the case of a Cleveland Bay carriage horse which had broken knees, and became affected with tetanus and recovered. Six months later, and again twelve months later the same animal had tetanus—tetanus three times, three recoveries. The animal was then sold and lost sight of. The symptoms were spasms of the muscles of the body, but no trismus. The longest time it took the animal to recover was ten days. Both Mr. Collinson and Mr. Somerset had seen outbreaks of tetanus in lambs following cas-

Foreign bodies:—The PRESIDENT related a case which he examined of a lump or swelling on a cow's jaw. This he found was due to a bone lodged in the tongue. Mr. Sampson had a case in a sow with a swollen tongue, due to lodgment of an umbrella wire nine inches

Anthrax:-The PRESIDENT stated that he could not discuss the cases related by Mr. Robinson with any con- appeared more complicated—at first somewhat superficial

fidence. Mr. Thompson stated that he had seen a cow with atemperature of 104 to 105° F. for three days; the

cow afterwards died with anthrax.

Mr. LLOYD related several cases of anthrax occurring in two dairy premises, one on either side of the street. A case of anthrax occurred in one cow shed on a Sunday evening. The following morning a farmer came to the premises with a load of turnips, but owing to the premises being closed because of the outbreak of anthrax the turnips were not deliverd. They were taken instead to the cowkeeper across the street. A few days later that cowkeeper also had anthrax on his premises. It would be interesting to know whether the turnips caused the outbreak, as turnips from the same field had been delivered at the first premises previous to the first outbreak.

He related the circumstances of other cases, in which more than one animal died wilh anthrax. At one dairy farm a cow died with anthrax. A cow in the same double stall had to be removed to a disused cowshed on the other side of the yard. A few days later this cow also died with anthrax. A third interesting case was one in which a wholesale butcher's slaughterman was requested to go to a farm to kill a beast that was affected with some disease, and remove the carcase to the slaughterhouse to be dressed for human food. In carrying out this work he was accompanied by his master's groom. The whole of the work was done between 11 o'clock on Saturday night and 2 on Sunday morning. When the groom arrived back at the stable he fed the horses and cattle on the premises, so that he would not have to rise so early the following morning. On the following Friday one of the cattle died with anthrax. It is probable that in this case the groom carried to his master's premises the infection from the animal killed at the farm and dressed

at the slaughterhouse. Mr. Hudson related a case of two fillies which he found dead in boxes on detached farms, but which had been grazed in the same field, which had a history of anthrax. It was known that 15 animals had died and been buried in this field, and another client had a threeyear-old beast affected in the same field with anthrax. Regarding the fillies, one was found unwell with a swollen throat, colicky pains, and died in six hours. Next day the filly at the other farm was affected in a Next day the fifty at the other farm was anected in a similar way, with a gelatinous discharge from the nostrils, like thin, clear calf-foot jelly. Microscopic examination of the discharge was negative, so also was that of a scraping from the sub-maxillary gland. A postmortem examination was made by a publican; nothing particular was found except patchy hæmorrhage in the intestines. No anthrax bacilli were found in the blood by microscopic examination. Unstained bacilli were found in the spleen after staining with methylene blue, but anthrax was not confirmed by the Board of Agriculture. In carrying out the post-mortem the butcher cut his knuckle, and this was treated by washing with Izal solution, application of the actual cautery, and wrapped in formalin bandage. He did not become infected. The cases were interesting in the fact that they occurred in animals recently grazed on an anthrax field, exhibited symptoms suspicious of anthrax, but in which anthrax bacilli were not definite, and in which the disease was not confirmed. What disease were the animals affected with if it was not anthrax?

Strangles:-Mr. Lloyd related particulars of an outbreak of pyæmia in mares that had recently been served by the same stallion. The horse had been off his round for a few days with what appeared to be a mild attack of influenza. Several mares afterwards served by him on different farms developed abscesses in connection with the vulva and mammary glands. Some appeared to be mild cases of bastard strangles, and recovered. Others

in the perineal region, afterwards occurring more deeply in the tissues, and death finally ensued from pyamia.

Mr. Collinson described the condition met with in ewes served by a ram just after dipping. He found vesicles of the prepuce in the vagina of one ewe, others

only having swollen vulvæ.

Mr. Sampson had been asked to examine two rams, one of which was lame with abscesses about the feet, and the other had abscesses about the jaw and breast. He recommended that the rams should not be used for breeding purposes, but as soon as the abscesses had been all evacuated, the animals should be slaughtered.

Mr. Robinson, in reply, thanked the members for the hearty way in which the discussion had been taken up. He apologised for the scanty material he had supplied, but was glad the discussion had been carried out so energetically. He was quite convinced that animals affected with anthrax occasionally did recover.

A vote of thanks to Mr. Robinson for his remarks was proposed by the President, seconded by Mr. Hudson,

and carried.

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Mr. LLOYD proposed that the best thanks of the Association be tendered to Mr. Fletcher for acting as President of the Association for the last two years. He stated that Mr. Fletcher had taken the position when it was doubtful, owing to the war, whether the Association could carry on or not, and he hoped that at some time it would be possible for Mr. Fletcher to again act as President in more happy times. This proposition was seconded by Mr Smith, and carried with acclamation.

Mr. FLETCHER replied, and said that when he took the position of President he hoped the war would have been over during his term of office. He had derived great pleasure from being President of the Association. He had done what he could towards carrying it on in difficult times, and, if the members desired, he would be happy to accept the position again when the times were

J. S. LLOYD, Hon. Sec.

THE NORTH OF SCOTLAND VETERINARY SOCIETY.

(NATIONAL V.M.A.—SCOTTISH BRANCH).

The half-yearly meeting was held in the Agricultural Department, Marischal College, Aberdeen, on Sept. 7th,

The Chair was occupied by Mr. William Hepburn,

F.R.C.v.s., President, and the members present were:
Messrs. Brown, Clerk, Cumming, and Sievwright.
Apologies were read from Mr. Crabb, New Aberdour, and from Mr. George Howie, Alford, Secretary. The meeting learned with deep regret that Mr. Howie's absence was due to a motor accident he had sustained some days before, but were glad to learn that he was on the way to recovery. In the absence of the Secretary, Mr. Brown was asked to act as interim Secretary, and to convey to Mr. Howie the sympathy of all present and their fervent hope that he would have a speedy and complete recovery.

A letter was read from Mrs. R. B. Bell, Fraserburgh, thanking the members of the Society for their great kindness to her late husband during his last illness.

Mr. HEPBURN proposed that Mr. ALEX. JOHNSTON, Rothienorman, should be elected a member of the Society, which was agreed unanimously.

The following letter was read from Mr. William Murison, County Clerk of Aberdeen:—

County Buildings, Aberdeen, 4th Sept., 1917.

Dear Sir.—At a meeting of the Executive Committee of the County under the Diseases of Animals Acts held on 31st ultimo the condition of the County regarding the prevalence of contagious abortion was under consideration. It was urged by some of the members that this disease should be made compulsorily notifiable under the Acts and that steps should be taken by the Local Authority to carry out, through their Veterinary Inspectors, the preventive inoculation of all affected herds in the County with the Board of Agriculture vaccine, which was stated to be giving excellent results.

The Committee resolved to ask Mr. William Brown, Lecturer in Veterinary Hygiene in the College of Agriculture, to attend the next meeting of the Local Authority for the purpose of discussing the whole question, and as the Committee were informed that your Association was to meet this week I was instructed to invite the opinion of the Association (1) as to whether the disease should be made notifiable; (2) whether the Veterinary Inspectors of the Local Authority were prepared to carry out the necessary preventive inoculation provided a sufficient supply of the Board's vaccine could be obtained for the purpose, and (3) if a sufficient supply could be obtained, the terms upon which the Inspectors would be willing to carry out the work.

I shall be obliged if you will submit this communication to the meeting and let me have their views for the

information of the Local Authority.—Yours faithfully, (Signed) WILLIAM MURISON.

George Howie, Esq., Secretary,
Association of Veterinary Surgeons, Alford.

The letter was fully discussed, and the Secretary was instructed to reply to the County Clerk that they considered the time was more than ripe for steps to be taken to cantrol this scourge. Dairy cows were the chief cause of the spread of the disease. The members were of opinion that the disease should be scheduled provided it could be done without undue dislocation of the cattle-breeding and dairy industries. They were also prepared to carry out preventive measures by in-oculation at fees of 1/- per mile and 2/6 per animal inoculated.

A general discussion followed on the technique of applying the vaccine, and some who had experience said they had had difficulty in getting the material to pan out provided it was sent in large bottles containing a number of doses.

BLOODY URINE.

By Mr. George Howie, Secretary.

The paper was read by Mr. Brown, in the absence of the author.

During the last twenty years I have met with eight or ten cases of bloody urine in cows, the causes, pathology, and therapeutics of which I have been unable to identify. I think they are worthy of being recorded, and it is possible that some of you have met with similar cases and have had more success in the treatment of them than I have.

The cases have all occurred in dairy cows in full lactation, and of all ages. The most noteworthy points of similarity are that all the cases have occurred in the winter months; all in cows belonging to small holders; and all in holding at hill-foots and lying up in the

Symptoms. The first thing observed is a slight colouring of the urine, particularly the last portion voided; this is usually observed by the milker. The disease assumes a chronic course. As time goes on the urine gets

redder and redder until it can be seen in the strand or on the straw bedding; ultimately, if some of the urine is caught in a vessel and allowed to settle, the result shows one-fourth blood. In the final stages small clots may be observed on the bedding. There is no constitutional disturbance of any kind. The appetite and rumination are, if anything, above normal. The cow at a start is are, if anything, above normal. The cow at a start is usually in good condition and gradually loses flesh as the disease goes on, but the wasting is not so rapid as one would expect.

I have tried subcutaneous injections of Adrenalin chloride and also Tinct. ferri perchlor., Wytch-hazel, Ol. tereb., and internal antiseptics, and astringents, but so far I have not been successful in arresting the hæmorrhage. Every case has been put through the fat ring at the local mart, or otherwise disposed of; therefore, I have not had an opportunity of making a post-mortem.

I have a case just now which was first observed in mid November, and she is worth quite a good price in the fat ring, where she will be exposed in a week or so.

What is the disease? It is neither Parturient redwater nor Piroplasmic redwater. It has no resemblance to Azoturia in horses. I have thought that the cause might be bracken poisoning, I can get no light in any of the text-books I have consulted. Have any of you seen similar cases, and have you found a successful treat-

Mr. SIEVWRIGHT suggested Darn.

Mr. HEPBURN suggested that the trouble might be cystitis and that the bleeding is secondary from the mucous membrane of the bladder. Mr. Hepburn proposed a very hearty vote of thanks to Mr. Howie for his interesting communication.

"NAVICULAR."

Mr. D. CLERK showed an interesting specimen of a navicular bone which showed pitting on the surface, probably due to necrosis. The horse working on rough ground covered with snow, and on the following morn-ing was found dead lame. The symptoms were those of septic infection of the joint. Antiphlogistic treatment was tried to reduce the inflammation and pain, but was unsuccessful; the horse died in three weeks.

Mr. Hepburn had seen similar cases and thought that the trouble originated in a septic infection of the pedal

joint.

Mr. HEPBURN referred to several cases of trouble in horses due to eating seeds of ryegrass before the stage of ripening. There was no fever, the chief symptom being inco-ordinate movements. With the cause removed by a dose of physic, recovery generally ensued. In one case paralysis of the penis resulted. It continued a few weeks and he amputated the organ, and the animal

Mr. Cumming related a case where a stallion groom had attempted to open the os uteri of a mare and had torn the wall to the urethra through all but the peritoneal coat. A thickening of that coat had occurred and a cul-de-sac formed. Here the urine had accumulated and decomposed, and the sac was filled with very offensive material. It gave rise occasionally to colicky pains and straining. Washing out of the material gave temporary relief.

ELECTION OF OFFICERS.

President: Mr. William Brown, M.R.C.V.S., Marischal College, Aberdeen.

Vice-Presidents: Mr. D. Clerk. M.R.C.V.S., Stonehaven;

Mr. A. Kerr, M.R.C.V.S., Ellon.

Secretary and Treasurer: Mr. Geo. Howie, Alford.
Council of Management: Messrs. Anderson, Crabb,
McPherson, Sievwright, Murray (Cullen), Niven, and Robson.

- GEO. HOWIE, Secretary.

COCCIDIOSIS OF THE HORSE.

To the Editor of "The Veterinary Record."

Sir.—Will you be good enough to allow me a small space in the current issue of The Record in which to give a few details of the case reported at p. 131

Mr. S. E. Sampson, in the course of a P.M. upon a horse, was attracted to certain pronounced lesions in the intestines. At Mr. Sampson's request I saw the intestines the same day, and noted the following well-defined macroscopic lesions.

The mucous membrane was puckered or corrugated over a distance of some 20 feet, and contained many crater-like areas, several of which were over an inch in length. The intestine itself was much thickened, being

at some points double the normal.

The condition of the intestine bore some resemblance to a well known disease of cattle, consequently a search was made for "acid-fasts," but with negative results. Unstained scrapings from the bowel contained large numbers of circular bodies about the diameter of a red blood-cell. In sections of the intestines were seen large numbers of circular bodies in various stages of development including an intra-cellular stage in the epithelium. Sir John's statement—that the mucous membrane is healthy, and that there is little or nothing abnormal in the deeper structures-is in direct opposition to the P.M. findings. It does not follow that because this case differs somewhat from that of the rabbit it is not a coccidium, because many coccidia are found infesting members of the Arthropoda, Mollusca, and Vertebrata, which also differ; yet they are classified as such because they have certain essential characteristics in common. Sir John wrote me to the effect that he found foci of disease in the intestine and gland, about the exact nature of which he was not sure, although he was quite certain it had nothing to do with coccidiosis. In reply, I wrote Sir John saying that I had the greatest respect for his opinion, but that he had put forward no reason why I was wrong. I gave Sir John the reasons why I considered the parasite from this case was entitled to be classified with the coccidia, and also stated that I was open to correction. To this letter Sir John did not

reply.

Thanking you in anticipation, I am, yours obediently,

H. P. Lewis. H. P. LEWIS.

P.S.—My original intention was to publish the case in detail, but unforseen circumstances, and the advent of the war prevented me. I still hope, however, D.V., to be able to do so at some future date.

Hull, Jan. 8.

[This letter came to hand last week, but after our pages were made up.]

APPLICATIONS FOR CALCIUM CARBIDE. PD/T/9914/chem.

Veterinary Surgeons are hereby informed that no application for a supply of Calcium Carbide and/or Dissolved Acetylene for use in Head Lamps in Motors, or in Motor Cycle Lamps, while engaged on Professional duties, can now be considered unless these applications reach this Department through the medium of the Royal College of Veterinary Surgeons.

Applications on the Requisition Forms (obtainable at all the usual distributing Agencies) for a supply to cover monthly estimated requirements over a period of three months, together with a covering letter explaining the circumstances under which the application is made should therefore be sent to the Secretary, R.C.V.S., 10 Red Lion Sq., W.C. 1.

Every endeavour will be made by the Ministry of Munitions to meet urgent requirements of the Veterinary Profession, but in view of the acute shortage of Carbide no guarantee can be given, even when a Licence has been issued, that the supply granted will be obtainable by the holder of the Licence.

The Department relies upon Veterinary Surgeons exercising the utmost economy in the use of this

supply.

W. BEATTIE, A.C.P.D./5L. For Controller Priority Department, Ministry of Munitions of War, 1 Caxton Street, Westminster, S.W. 1

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the follow

ing subscriptions for 1918:—			
E. F. Angler, Capt. A.V.C. (T.F.)	£1	1	(
G. Atkinson, Capt. A.V.C. (T.F.)	1	ī	Č
G. Atkinson, Capt. A.V.C. (T.F.) H. Bibbey, Winsford	1	1	(
P. W. Bloye, Lieut. A.v.c.	1	1	(
E. W. Bovett, Bridgwater	1	1	(
O. C. Bradley, Princpl. R. V.C., Edinburgh	1	1	(
O. C. Bradley, Princpl. R. V.C., Edinburgh W. Bushnell, Capt. A.V.C. (T.F.)	1	1	(
T. D. Condell, Kilkenny W. G. Darling, Capt. A.V.C. (T.F.)	1	1	0
W. G. Darling, Capt. A.V.C. (T.F.)	1	1	(
W. P. S. Edwards, Capt. A.V.C. (T.F.)	1	1	(
A. E. Gostling, Hampstead, N.W. W. Grasby, Daventry	1	1	(
W. W. Grasby, Daventry	1	1	(
F. E. Heath, Capt. A.V.C. (T.F.) F. T. G. Hobday, Major A.V.C. J. E. Johnston, Belfast (1917, 1918)	1	1	(
F. T. G. Hobday, Major A.v.c.	1	1	(
J. E. Johnston, Belfast (1917, 1918)	2	2	(
T. E. Jones, Liverpool	1	1	(
W. N. Jürgensen, Major A.V.C. (T.F.)	1	1	(
W. H. Kirk, Capt. A.V.C. (T.F.)	1	1	(
G. C. Lancaster, Capt. A.v.c. (S.R.)	1	1	(
A. Lawson, Manchester	1	1	(
R. N. Lewis, Capt. A.V.C. (T.F.)	1	1	(
E. E. Maclachlan, Capt. A.V.C. (T.F.) G. E. Oxspring, Capt. A.V.C.	1	1	(
G. E. Oxspring, Capt. A.V.C.	1	1	(
W. Packman, Bury	1	1	(
J. Player, Capt. A.V.C. (T.F.)	1	1	(
J. H. Poles, Peterborough J. W. Proctor, Lieut. A.V.C.	1	1	(
H C Downolds Downtry	1	1	(
H. S. Reynolds, Daventry	1	1	(
J. M. Richardson, Capt. A.v.c. (T.F.) W. Roach, Exeter	1	1	(
A. J. Sewell, Eaton Square, W.	1	1	(
C. F. Shawcross, Capt. A.V.C. (T.F.)	i	i	(
R. Simpson, Capt. A.V.C.	î	1	(
P W D Smith Major A.V.C. (T.F.)	1	i	(
P. W. D. Smith, Major A.V.C. (T.F.) J. Sommerville, Capt. A.V.C. (T.F.)	î	1	(
J. C. Storie, Capt. A.V.C. (T.F.) F. J. Taylor, Major A.V.C. (T.F.) F. W. Taylor, Wexford J. L. Taylor, Capt. A.V.C. (T.F.) H. A. Thorne, Capt. A.V.C. (T.F.)	î	i	(
F. J. Taylor, Major A.V.C. (T.F.)	ī	î	(
F W. Taylor. Wexford	î	î	(
J. L. Taylor. Capt. A.V.C. (T.F.)	1	1	(
H. A. Thorne, Capt. A.V.C. (T.F.)	1	1	(
A. Veitch, Weston-super-Mare	1	1	(
A. Veitch, Weston super-Mare W. J. Wagstaffe, Macclesfield	1	1	(
J. Walker, Alton	1	1	(
F. M. Wallis, Halstead	1	1	(
D. Weir, Capt. A.V.C. (T.F.)	1	1	(
E. H. Wyly, Capt. A.V.C. (S.R.)	1	1	(
Previously acknowledged	143	16	(

£193 13

ARMY VETERINARY SERVICE

Sandringham, Jan. 2.
The following Officers had the honour of being received by His Majesty, when The King invested them with the Insignia of Companions of the Orders into which they have been admitted :-

THE DISTINGUISHED SERVICE ORDER.

Capt. Alfred Pryer, Army Veterinary Corps.

War Office, Jan. 8.

With reference to the awards conferred as announced in the London Gazette, dated Sept. 26, 1917, the followare the statements of service for which the decorations were conferred :-

THE MILITARY CROSS.

Capt. James Mannington Richardson, a.v.c.—At a critical moment, when his wagon lines were being shelled, he proceeded to the stables, and, in spite of hos-tile fire and the approach of hostile aircraft, superin-tended the removal of the horses with great promptitude and coolness. Although wounded in the back by a bomb, he continued to encourage his men by his presence until everybody was clear. By his gallantry under trying circumstances the wagon lines were cleared with very few casualties.

The A.V.C. Comforts Fund.

Dear Sir,-I trust you will be able to give space for publication of the enclosed lists of subscriptions received for benefit of the A.V.C. Comforts Fund through Col. Stratton, and also through Maj. and Mrs. A. Baird, Edinburgh. I would like to take this opportunity to again express to these valiant friends in Scotland how warmly their efforts are appreciated in thus gaining such splendid and generous contributions, and also for keeping up interest amongst Scottish friends in the work of the Comforts Fund. I append some extracts from letters recently received which I hope you may find a corner for. It is most gratifying and also encouraging to hear that the gifts sent to each of the Mobile Sections for Christmas have reached them in good time and were so greatly appreciated. May I again appeal through The Veterinary Record for ladies connected with the Corps or the profession, to come and assist me with the packing and sewing up of the bales. I am exceedingly short of helpers and, unfortunately, my regular assistant has not been able to return to work since before Christmas on account of her sister's illness; consequently I am delayed and very much handicapped in getting off the bales.—Yours truly,

ADELAIDE M. MOORE. 20 Parsifal Road, Hampstead, N.W. 6. Jan. 9th.

Contributions received by Major and Mrs. A. Baird:

V	mer coursons received og	integor terete in	10. 1	1. 11	ceci	·
	Mr. and Mrs. Shaw,	Edinburgh	£2	2	0	
	Miss Scott,	"		10	0	
	Mrs. Macqueen,	.,		10	0	
	Lord and Lady Macker	nzie "	3	0	0	
	Mr. H. Wells,	,,	1	1	0	
	Mrs. J. P. Wright,	"	2	0	0	
	Mrs. Alison,	"	1	0	0	
	Miss Wishart, Kirkca	ldy	1	0	0	
	Miss McInroy, Blair	Atholl	1	0	0	
	Mrs. Johnstone Ford,	Clerkington	5	0	0	
	Miss Boyd, Corstorph	ine		10	0	
•	Lady Gibson Craig, H	Riccarton	3	0	0	
	Mrs. Guthrie, Colinto	n		10	0	
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£21 3 0

Lieut. Colonel F. C. Stratton, A.V.C.

Wm. Anderson, Keith Wm. Bannatine, Haddington	£1		0
Wm. Bannatine, Haddington	2		0
J. Baird, Dumfries		2	0
J. Borthwick, Kirkliston D. Brown, Kilwinning	1	-	0
D. Brown, Kilwinning	_	10	6
J. Brown, (F) Invergordon	2		0
D. Clerk, Stonehaven		10	0
R. H. Connochie, St. Boswells		10	6
T. D. Connochie, Galashiels	_	10	6
T. A. Douglas, Kilmarnock	2	2	0
W. G. Forbes, Kilmarnock	2	2	0
Geo. Gair, Cononbridge J. Garvie, Montrose		10	0
J. Ghan Dunder	1	1	0
J. Gibson, Dundee	1	1	0
H. Gillmor, Ayr	1	1	0
J. Hammond, Major A.v.c., Ayrshire	1	0	0
D. Hamilton, (F) Hamilton	1	I	0
Wm. Hepburn, Lieut. A.V.C., (T.F.)			_
A H Hodgson Cont Bonount Sonia	1	1	0
A.H.Hodgson, Capt., Remount Service T. M. Inglis, Forfar	1	0	0
J. Lyle, Forfar		10	6
		10	6
D. F. Lauder, Capt., Remount Service R. Knight, Dunfermline	1	1	0
A. I. McCallum, J.P., Edinburgh	1	0	0
J. McBryde, Stricken	1	1	0
J. McDougal, Helensburgh		10 10	0
W.A. Macgregor, Capt. A.v.c. (T.F.) Ayr	1	10	0
A. Panton, Blair Atholl	1	15	0
J. Renfrew, Glasgow	3	3	0
J. G. Reynard, Perth	1	1	0
A. Robb, (F) Glasgow	1	1	0
W. Robb, (F) Glasgow	1	i	0
Mrs. Gibson Thomson	1	5	0
R. Scott, Hawick	1	1	0
D. Weir, Capt. A.V.C. (T.F.) Ayr	4	0	0
G. W. Weir, Capt. A.V.C. (T.F.) Glasgow		1	o
A. Wilson, Major U.L., (T.F.) Edinburgh	1	i	0
Lowland Divisional Veterinary		T	U
Hospital, Stirling	5	0	0
£	17	19	6

OBITUARY.

W. Emms, M.R.C.v.s., Ditton House, Ilminster, Somerset Graduated, Lond: May, 1846.

Mr. Emms' diploma bears an earlier date than any at present on the Register R.C.V.S., and there is but one other dated earlier than 1850. His death occurred in

the early part of this month, at the age of 92. He was born at Kingston on-Thames.

Bowman.—January 11, 1918, at Hopewell House, Leeds, Emilie, the beloved wife of George E. Bowman, M.R.C.V.S. Interment at Elvington Church, near York.

[Mrs. Bowman was hostess in 1912, when the National Veterinary Meeting was held at Harrogate.]

"The funeral of Mrs. Bowman, wife of Mr. George E. Bowman, veterinary surgeon and veterinary inspector to the Leeds Corporation under the Diseases of Animals Act, took place yesterday, in Elvington Churchyard, near York. Mr. Bowman's family has been connected with Elvington for about two hundred years; he was born there, and owns an estate in the district. His wife was the only daughter of the late Henry Jewison, of Raisthorpe, Malton, who was the owner of several noted show hunters, including Palmerston, which was never beaten, and Landmark, only beaten once—both of them sold to the King of Italy—and who died in the hunting field nearly forty years ago. The chief mourners yesterday were Mr. Bowman; Miss Bowman and Mrs. W. Monteith, daughters; Mr. Charles Jewison and Mr. Henry Jewison, brothers; Miss Jewison, niece; Mrs. Raymond Thompson, of Malton, niece, and Col. Raymond Thompson; Mr. W. P. Bowman, Leeds; Lieut. Geoffry Knowles; Mr. A. Monteith, Horsforth Hall, and Miss Monteith; Miss Bowman and Miss Minnie Bowman, Acomb.

The veterinary profession was represented by Mr. S. Wharam and Mr. W. Crawford, veterinary surgeons, Leeds; and among others present were several of Mr. Bowman's Elvington tenants and their families, and many of the villagers."—The Yorkshire Post.

(Late Advertisement.) Royal Counties V.M.A.

THE Annual General Meeting of the Association will be held at the Great Western Hotel, Reading, on Friday, Jan. 25th. The chair will be taken by the President, J. Willett, Esq., at three o'clock. Agenda: Routine: Auditor's report. Paper by Capt. Brayley Reynolds, A.V.C. It is hoped that as many members as possible will attend.

An informal Dinner will be provided at 6 o'clock.

G. P. MALE, Hon. Sec. & Treas.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anthrax		Anthrax Foot- and-Mou Disease		th Glanders.†		Parasitic Mange. ‡			Swine Fever,	
	riod.	od.		Out- breaks (a)	Ani- mals.	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- oreaka (b)	Ani- mals.	Sheep Scab.	Out- breaks	Slaugh- tered.
GT. BRITAIN.					1	1						(0)	140	-
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		* 0 1	0.00		_						-	25	86	415
Total for 2 weeks	, 1918		•••	13	15			1	2	308	642	50	43	14
Corresponding period in	{	1917 1916 1915		40 27 41	43 27 46	•		1 1 2	1 5 2	148 130	342 526	59 49 41	85 167 183	34 493 876

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive (a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—

Board of Agriculture and Fisheries, Jan. 15, 1918. Excluding outbreaks in army horses.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1542.

JANUARY 26, 1918.

VOL. XXX.

A NEEDLESS SLUR.

We reprint this week, from an Irish newspaper, a report (p. 308) of a further step in the prosecution by the R.C.V.S. of an unqualified man for using the addition or description "V.S." The case was undertaken at the instance of Mr. Boyd Gardner, of Drogheda, and was noted in our pages at the time (p. 196). It is referred to now to point out the remark of the Recorder, who is reported to have said, "the local cow doctor was often better than any pet."

There is no justification for this statement—unless the unqualified men in Ireland are very much superior to those on this side of the Channel, which is more than doubtful. Ireland possesses one of the best equipped Veterinary Colleges in the Kingdom—both in men and material, and for 17 years has been under the control of an exceptionally good Principal. The number of its graduates in those years and the positions held by most of them is undeniable evidence of its efficiency.

The College was the first in the Kingdom provided by State funds—three of the other four were purely personal undertakings. Yet this wanton remark is made concerning the Irish practitioners, most of whom are well up to the average in professional skill, and undoubtedly have been through a training which should place them in front of any but very exceptional unqualified men.

It goes without saying that men differ in natural capacity, and that the powers of observation and deduction—which in a few unqualified men are exceptionally well-developed—are denied to some members of the profession. But this disability is by no means confined to the veterinary profession. We find it, mirabile dictu, amongst lawyers.

In regard to the report of this case which we reprint, it has to be said that it is not a good one; the reporter is not well posted in the subject matter—vide his style of the R.C.V.S.—and his lordship may be misrepresented. Otherwise, it is to be hoped that this is an isolated instance of personal opinion; or sheer lack of knowledge of the conditions. In any case, in the present dormant condition of the National Veterinary Medical Association, it falls to the Irish section to deal with the incident—if they find it of sufficient importance.

The law is so much in advance of us in the matter of fees that they are unlikely to be disturbed by so small an incident. We cannot afford a similar indifference.

ELECTION TO COUNCIL, 1918.

The following nominations have been received. The foreign voting papers are due for issue in the first week in February, and will include any further names which may be received before the papers are printed—say up to the end of this month.

Abson, J., Major A.v.c., D.s.o., Sheffield. Brittlebank, J. W., Major A.v.c., Manchester. Banham, G. A., Cambridge. Blenkinsop, L. J., Major-Gen. A.v.s., D.s.o. Coleman, J. C., Swindon.

MALIGNANT ŒDEMA.

By W. R. Davis, M.R.C.v.s., Enfield.

On Friday, Dec. 28 last, I received at night a message to attend a colt that was stated to be very ill. I found the animal, a two-and-a-half year Shire colt, standing in a loose box, and it certainly presented an extraordinary appearance. The head and upper part of the neck was markedly swollen, and in consequence of the intense cedema of the conjunctiva this membrane protruded from both eyes as red, swollen masses, giving to the patient a most hideous aspect. The breathing was normal. I could not take the pulse either at the jaw or inside the arm, nor could I detect the heart beat on auscultating the chest. The temperature was not taken, as I broke my thermometer in attempting to do so. There was no discharge from the nose, and there was no feetor either of nostrils or mouth.

On offering the colt some sweet hay it took a few bents into its mouth, rolled it about for a short while, and then dropped it out.

The colt, with another of the same age, was running at grass, receiving chaff and corn once a day, and on this day it came to the crib although it seemed to lag behind its mate, and it was not until dusk that the animal was really noticed to be amiss.

I gave a chlorate of potass mouth wash and ordered the eyes to be bathed with boric acid solution, but told the owner that I had hardly any hope of the colt's recovery. I received a telephone message the following morning that my patient had died in the night apparently without a struggle. No post-mortem was obtainable.

I have repeatedly seen cases such as the above but without the protruding conjunctive. In older animal which do not succumb so quickly there is usually a reddish discharge from the nostrils accompanied by a horrible fætor, and the swollen parts are emphysematous,

In my opinion, the cases so ably described by above, due to the bacillus of malignant ædema—the vibrion septique of Pasteur. Quite probably its point of entry is in these cases an abraded gum.

The terms "anthracoid" and "gloss-anthrax" applied to this condition are apt to lead to confusion, since the cause is in no way related to the bacillus

of anthrax.

TETANUS?

In the report of a meeting of the Midland Counties Veterinary Medical Association which appeared in your issue of Dec. 8th, there was a case of tetanus in a pony described by Mr. Chambers, and I think that perhaps my experience with a somewhat similar case may prove of some assistance.

While in practice in the West Indies a pony was driven into my infirmary by the owner. The animal showed every symptom of acute advanced tetanus. The history was that he had refused food that morning (I saw him at about 11 a.m.), but as he seemed quite well he was put in harness and driven out. While in the street his movements were noticed gradually to become more and more stiff, and he was therefore brought to me.

The patient was practically rigid. He was taken out of harness and put in a box, and a dose of antitetanic serum injected. At the end of 24 hours he was eating food but was still slightly stiff, and at the end of 48 hours after I first saw him he had

completely recovered, and was led home.

Such a case is described by Hutyra and Marek as "tetany." Although resembling tetanus in an advanced stage of the disease, i.e., the stage of complete rigidity, it differs from it in (1) its onset a matter of a few hours; and (2) its clinical course, i.e., recovery in a remarkably short space of time. But these are merely the clinical differences, for morphologically and pathologically the two diseases have nothing in common.

Tetany is evidently a toxaemia resulting from the sudden excessive formation with accumulation of certain waste products, and I do not think that the anti-tetanic serum had anything to do with the recovery. A warm bath and a pound of mag. sulph. would probably be rational treatment did one not have some faith in the vis medicatrix nuturae.

If it should prove the rule that the disease develops only during work, somewhat like azoturia, then this circumstance would be a sure method of

differentiating between "tetany" and tetanus.

There is no reason why any mistake should be made between "tetany" and strychnine poisoning. In the few cases of strychnine poisoning which I have encountered in horses the symptoms are like those in the dog. Great excitement, with an extremely frightened expression—as opposed to the drawn expression seen in tetanus. Frequent neigh-The tetanic symptoms evince themselves as convulsive spasms, and are not continuous; the spasms varying from infrequent in slight cases or at the onset, to frequent or spasms rapidly succeeding and even merging into each other.

I regret that I cannot supply Mr. Chambers with Mr. Harvey in your issue of Jan. 12 were, like the more information on the subject of "tetany," but Hutyra and Marek and other text books are scarce in Palestine.

G. O. RUSHIE GREY, A.V.C.

Dec. 30, 1917.

BLOODY URINE.

After reading Mr. G. Howie in The Veterinary Record on this subject, I would like to record the

following;

This disease is often seen in this part of the country; I should say on an average that I see four or five a year. I cannot add anything to the symptoms described by him; I, also, find it usuallybut not always, among small holdings; invariably where the grass is poor; and usually it commences between August and December. I would like to know how is Mr. Howie so certain that it is not caused by ticks, as on the three occasions I tested the blood I have found piroplasms in the blood, but as Red water caused by ticks is so prevalent here this is not positive evidence.

I made a post-mortem on one only: it is not Cystitis, as the bladder was perfectly healthy, but full of blood; both kidneys were enlarged, inflamed,

and showed small spots all over them.

I usually advise slaughter, but two or three cases, being in calf, I treated, and found more benefit from Linseed cake than from any drug. The drugs used were Pot. chlor., and turpentine.

It would be interesting to know if it is prevalent

in districts where there is no Red water.

G. Jones Roberts, f.r.c.v.s.

Pwllheli, N. Wales, Jan. 21.

AN EXPERIENCE.

It was evident that it would be all over in a few minutes-actually the episode took about 20. I called to the boy to stand clear or the mare would drop on top of him. The lad was doing his best to keep her from falling, the mare assisting with her muzzle resting on the manger, the while she sobbed for breath. Soon the crash came, her legs buckled up and the head fell to the ground with a sickening thud—a convulsion.

I was called to see this mare (on Saturday, 19th inst.) and just arrived in time to witness the above. The only history was that she had been suffering from influenza for three weeks. I returned to the stable to get my things after a ten minutes conversation with the owner, and, to my surprise, I found the mare lying in a perfectly easy position (except for her breathing) on her brisket. I tried to take her temperature. The mercury did not rise above what corresponded to 93° (my thermometer does not register below 95°). I tried to get her pulse at the submaxillary but it was imperceptible. Listening at her side, one caught an occasional heart beat. I gave a hyp. inj. Strychnine, and in five minutes she stood up. As she was in a cold sweat we set to

wisping her, and in another few minutes, having got her bearings, she went to the manger and cleared up half a feed that was there, as though nothing had happened.

I prescribed medicine in an electuary form—and went home wondering. Hence these notes.

Abergavenny.

W. G. BLACKWELL.

P.S.—I have learned since that the mare kept her feet for three hours after I left, and then suddenly dropped dead.

ABSTRACTS FROM FOREIGN JOURNALS.

THE ACTION OF CAMPHOR UPON THE CARDIO-VASCULAR SYSTEM.

P. Morfori has published an interesting article upon the subject in the Policlinico for 1917, of which

the following is a summary.

The pharmaco-therapeutical researches of recent years regarding the action of camphor upon the cardio-vascular system have brought to light some of its properties and certain of its therapeutic actions which especially deserve the attention of clinicians. Hitherto camphor has been considered essentially as one of the last resources to prolong the life of a diseased and exhausted heart. Therefore its use (by injections of camphorated oil) is almost exclusively reserved to combat cardiac collapse in acute or chronic infective diseases, or threatening paralysis of the heart in the last stages of cardiac diseases. Careful consideration of the pharmaco-dynamical properties of the drug should lead to a broader and more exact appreciation of its therapeutic value.

It is known that a frog's heart, paralysed by the action of chloral, recommences to pulsate under the influence of camphor, while atropine does not suspend the paralysing action of the chloral. Rohde, in 1915, demonstrated that chloral paralyses the heart by its action upon the intra-cardiac excitomotor apparatus; and it may be considered that camphor exercises an excitant action, antagonistic to that of chloral, upon the same apparatus.

Another property of camphor consists in weakening, or even suppressing the inhibitory action of excitation of the vagus upon the heart (Harnack,

Withowski, Loewi).

It has been possible to demonstrate that this action of camphor is due to an elevation of the function of the excito-motor apparatus of the heart. The fact is also notable that camphor, acting upon the mammalian heart isolated by Langendorff's method, generally produces augmentation of the number and the fulness of the cardiac pulsations. It is of still greater interest that, in a heart poisoned by chloral till the cardiac pulsations are reduced almost to imperceptibility, camphor succeeds in rapidly restoring the pulsations to the normal, and regulating the rythm. This was demonstrated in 1916 by researches carried out by G. Leone under the direction of the author.

effects, although not continuous, but alternating with periods of normal pressure. The fact was attributed to periodic excitation of the vaso-constrictor centre caused by camphor. More accurate studies have led to very different conclusions. Liebmann, in 1911, found that camphor dilates the pulmonary vessels, notably lowers the pressure in right ventricle, and diminishes the resistance in the pulmonary circulation. These facts are of great importance.

The action of camphor upon the great circulation, studied recently by G. Leone under the author's direction, is very characteristic. It has been possible to demonstrate that small and medium doses constantly produce a diminution of the arterial pressure and at the same time augment the fulness of the cardiac pulsations. The hypo-tension is due to the general vaso-dilation produced by camphor. Camphor should therefore be regarded as a vasodilator and hypotensive remedy upon the great and small blood circulations alike.

From this new and more complete knowledge of the pharmaco-dynamic properties wider and more important applications of the drug arise. Camphor, opportunely administered, may give very great benefits in the course of various cardiac and vascular diseases. In addition to acute myocarditis (which in the domestic animals is a frequent complication of foot-and-mouth disease, influenza, and equine contagious pleuro-pneumonia) camphor is extremely useful in the following other cardiovascular affections.

A. In chronic myocarditis, when treatment is

continued for a long period.

B. In valvular defects, in which camphor shows so elective an action that the author considers it the most rational and the most practically efficacious remedy to employ, especially when the valvular defect is on the right side of the heart.

C. In cases of increased labour of the heart from augmentation of the respiratory resistance

(emphysema, sclerosis of the lung).

D. In cases of arterial hypertension from cardiac hypertrophy, vascular spasm, or arterio-sclerosis

Naturally, therapeutic treatment with camphor may be associated with that by other cardiac remedies, diuretics, etc., according to the special indica-tions of the case. The best method of using camphor is the hypodermic injection of camphorated oil.—(La Clinica Veterinaria).

Anthrax-Immunisation by the Digestive Tract.

R. Turró published an interesting article upon this subject in Treballo de la Societat de Biologia. In a long series of experiments he has demonstrated the presence of natural bacteriolysins in many tissues, and has also shown that their distribution is so wide that they are even encountered in fresh hens' eggs transported aseptically into sterile vessels. At the end of some two months a hyaline, very limpid, and transparent substance can be clearly distinguished in the upper part of the vessel. This contains bacteriolysins which are so It was at one time admitted that the vascular active against the anthrax bacillus that they digest action of camphor exercised essentially hypertensive it in great numbers in vitro in the course of two

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days. These bacteriolytic properties are not extinguished with time, for the author possesses vessels which have held their contents for years, and the bacteriolysins are still active. He gives the name of oviserum to this bacteriolytic substance.

By administering hypodermic injections of oviserum to rabbits, the author has found that they resist infection with anthrax virus at the end of ten days after the last injection. This resistance persists for a long time, the exact duration of which he has not be able to fix. He has also, by giving rabbits three doses of oviserum through the stomach tube on alternate days, succeeded in rendering them refractory to the inoculation of anthrax virus at the end of two days after the last dose. The resistance conferred by the introduction of oviserum into the stomach lasts from 40 to 45 days.—(Revista de Higiene y Sanidad Pecuarias).

Royal College of Veterinary Surgeons.

SPECIAL MEETING OF COUNCIL.

A Special Meeting of Council was held at the College, 10 Red Lion Square, London, W.C., on Thursday, 17th inst., when the following members were present F. W. Garnett, C.B.E., President, in the Chair; Messrs. G. A. Banham, W. Freeman Barrett; Sir J. M'Fadyean; Prof. E. S. Shave; Sir Stewart Stockman, and Mr. S. H. Slocock.

Apologies for absence were received from Dr. Bradley, Messrs. J. H. Carter, J. Clarkson, A. Lawson, J. McKinna, J. McI. McCall, W. J. Mulvey; Sir R. Pringle, Gen. H. Thomson.

The minutes of the previous special meeting were

taken as read, and confirmed.

Bye-law 56. On the motion of the President, Byelaw 56, as amended at the Special Meeting of Council held on Friday, Jan. 4th, was confirmed, as follows:-

"That in the case of each and every person summoned by the Council of the Royal College of Veterinary Sur-geons to defend a chaage of 'conduct disgraceful to him in a professional respect' who shall enter a defence, a report of the charge and the defence shall be kept by the Secretary.'

Bye-law 62a. An application was received from the holder of the Licentiate in Medicine, Midwifery, and Surgery of the Apothecaries' Society, London, for exemption from the first year course under Bye-law 62a.

It was resolved: "That the Secretary be instructed to reply that under the present Bye-law the application cannot be acceded to."

This concluded the business of the meeting.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:-

J. J. Aitkin, LtCol. A.v.c., D.s.o.	£1	1	
W. Anderson, Capt. A.v.c.	1	1	
J. O. Andrews, Major A.V.C., D.S.O.	1	1	
T. S. Atkinson, Douglas, Isle of Man	1	1	
W. J. Bambridge, Capt. A.v.c.	1	1	

n-	A Para Cont 1 Tral	1
	A. Barr, Capt. A.v.c.	
ls	D. J. Barry, Major, late A.v.c.	1
10	E. B. Bartlett, LtCol. A.v.c.	1
		1
10	G. H. Bennet, Capt. A.v.c.	1
	H. W. Billinghurst, Alresford C. Blackhurst, Broughton	1
ri-	C Blackhurst Broughton	1
эу	C. W. Planama Cant ANG	î
	G. W. Bloxsome, Capt. A.v.c. W. H. Bloye, Plymouth	
en.	W. H. Bloye, Plymouth	1
r-	W. Blunsom, Cirencester	1
sh	D. Blyth, Capt. A.V.C.	1
	D. Bolton, LtCol. A.v.c. H. Bone, Major A.v.c.	1
ng	H Bone Major A V C	1
ch	A Bostock Major late A V.C.	î
m	A. Bostock, Major, late A.v.c. E. Brown, LtCol. A.v.c., D.s.o. J. Brown, Invergordon D. A. E. Cabot, Bd. of Agric., Whitehall	
	E. Brown, LtCol. A.v.C., D.S.O.	1
ne	J. Brown, Invergordon	1
ce	D. A. E. Cabot, Bd. of Agric., Whitehall	1
10	J. K. Calderwood, Capt. A.V.C.	1
Z.	F. Chambers, Major A.V.C.	1
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-	J. W. Concille, Kladerminster	1
	J. Conner, Capt. A.V.C.	1
	J. M. Culhane, Capt. A.v.c.	1
	J. A. Cunningham, Lichfield	1
	E. H. Curbishley, Alderley Edge	1
	D. G. Davies, Capt. A.V.C.	ī
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- 31	J. McL. Dawson, Capt. A.v.c., M.C.	1
	H. C. Dibben, Brevet LtCol. A.v.c.	1
	W. A. Dickinson, Lieut. A.v.c.	1
e,	A J. Dobbyn, Waterford	1
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r.	K. J. S. Dowland, Capt. A.v.c.	1
s.	A. F. Dykes Cant. A.V.C.	ī
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J.	F. Fail, Major A.v.c. T. J. Faithfull, Major A.v.c.	1
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	T. A. McC. Finch, Capt. A.v.c.	1
re	O. S. Fisher, LtCol. A.V.C.	î
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150	R. J. Foreman, Tottenham J. G. E. Gallie, Capt. A.v.c.	1
e-	J. G. E. Gallie, Capt. A.v.c. F. W. Garnett, C.B.E., Windermere F. C. Gavin, Major A.v.c. H. E. Gibbs, Major A.v.c. P. Gillespie, Manchester E. S. Gillett, Major A.v.c., C.I.E. J. Going, Capt. A.v.c.	1
11	r. W. Garnett, C.B.E., Windermere	1
-	F. C. Gavin, Major A.V.C.	1
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X-	J. J. Griffith, LtCol. A.V.C., D.S.O.	1
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	C. Hartley, Major A.v.c.	1
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	E. G. Haskell, Bury St. Edmunds	1
	W. Hay, Capt. A.v.c.	1
	W. H. Heaney, Capt. A.v.c.	1
	R. H. C. Higgins, Capt. A.v.c.	1
	S. E. Hill. Capt. A.V.C.	î
	T. F. Hogben, Canterbury F. Hogg, Capt. A.v.c,	î
ry	F. Hogg. Capt. A.V.C.	i
w-	R. H. Holmes, LtCol. A.V.C., C.M.G.	
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S. Lawrie, Major A.V.C.	1	1 0	T. T. Taylor, Capt. A.V.C. H. Thomson, Major-Gen., C.B. P. R. A. Thrale, Capt. A.V.C.	1	1 (
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Lindsay, Capt. A.V.C.	1	1 0	R. A. Thrale, Croydon G. Tillyard, Major A.V.C. R. Tindle, Major A.V.C. A. G. Todd, Col. A.V.S., D.S.O. C. H. S. Townsend, Capt. A.V.C. R. C. Trigger, Newcastle-under-Lyme	1	1 (
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A B McGowan. LtCol. A.V.C.	î	1 0	P. B. Turner. Capt. A.V.C.	î	
J. E. Mackenzie. Capt. A.V.C., M.C.	1	1 0	L. M. Verney, Major A.V.C.	1	1 (
P. Logan, Ballyclare K. Lomas, Capt. A.V.C. J. Lowe, Capt. A.V.C. Macdonald, Major A.V.C. Macfarlane, Capt. A.V.C. A. B. McGowan, LtCol. A.V.C. J. E. Mackenzie, Capt. A.V.C., M.C. McLeod, Glasgow	1	1 0	P. R. Turner, Capt. A.V.C. L. M. Verney, Major A.V.C. P. R. Viljoen, Pretoria (1916, 1917, 1918)	3 3	3 (
Mason, Helmsley	1	1 0	W. S. Walker, Capt. A.v.c.	1	1 (
C. Matthews, Major A.V.C.	1	1 0	W. S. Walker, Capt. A.v.c.	1	1 (
J. E. Mackenzie, Capt. A.v.c., M.C. McLeod, Glasgow Mason, Helmsley C. Matthews, Major A.v.c. W. Melhuish, Major A.v.c. W. Mellard, Major A.v.c., D.S.o. V. M. Metivier, Capt. A.v.c. C. Minet, Capt. A.v.c. M. Mitchell, Capt. A.v.c., M.C.	1	1 0	W. S. Walker, Capt. A.v.c. W. S. Walker, Capt. A.v.c. M. P. Walsh, Major A.v.c. F. J. Weir, Capt. A.v.c.	1	1 (
W. Mellard, Major A.V C., D.S.O.	1	1 0	F. J. Weir, Capt. A.v.C. E. A. West, Drayton Gardens, S.W. H. H. Whitlamsmith, New Cross. S.E. G. Williamson, Major A.v.C.	1	1 (
V. M. Metivier, Capt. A.v.c.	1	1 0	E. A. West, Drayton Gardens, S.W.	1	1
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M. Mitchell, Capt. A.v.c., M.C.	1	1 0	G. Williamson, Major A.v.c.	1	1 (
C. Minet, Capt. A.V.C. M. Mitchell, Capt. A.V.C., M.C. Moore, BrigGen. A.V.S. C. Moore, Capt. A.V.C. Mouro, Capt. A.V.C. Morgan. Dover	1	1 0	B. E. Wooster, High Wycombe	1 .	1 (
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E. Porrett, Capt. A.V.C. S. Probyn, Major A.V.C. W. Rainey, Major A.V.C. W. Raymond, LtCol., late A.V.C. C. Reeks, Spalding Renfrew, Broadway, Worcester J. Richmond, Oldham J. Roberts, Pwllheli H. Roberts, Leatherhead B. Robertson, Lancaster C. Rockett, Capt. A.V.C. W. Rudd, LtCol. A.V.C. Rutherford, Col. A.V.S., C.B., C.M.G. J. C. Ryan, Capt. A.V.C. E. Schofield, Major A.V.C. Scott, Capt. A.V.C. J. Sellers, Capt. A.V.C.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	confronted them before. When men are det develop the resources of their country and a for the benefit and comfort of its people, and who labour and contribute to the wealth o will be given some share in the fruits of the then will arise the necessity, never before so of a properly established system of organised whereby all that is in a man may be properly that he may be enabled to give only of his thereby contribute his full share to the su human happiness. Whatever course a man in may mark out for himself he must equip hims a way as to enable him to do that thing he most other men, if he wants to be accounted economy of human affairs. When the world was younger it was quite	ermine apply the substitution of a nancir lab keenly knowle develors best m total the full self in a setter to for in within	d tehen hos troped and felt edge and of turn that the the
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and industry within the compass of a lifetime to possess himself of all, or nearly all, the knowledge that was available in the world. But in our day things are vastly different. The extraordinary development in the arts, and especially in science has turned human effort into such a multitude of different channels that it must of necessity become the province of each individual to strike out a distinct line of action for himself and to devote himself exclusively to that and put into it the

full force of his intellect and energy.

We in Ireland are in possession of great traditions. When ignorance hung over the greater part of Europe and most countries outside of Europe were plunged in ignorance and barbarism, the lamp of learning shone brightly in Ireland. Arts flourished, and whatever was known of science was well understood here. We have only to visit any of the museums in this City and examine the examples shown there to realise the remarkable stage of the development of the arts and crafts practised in this country in times now remote. It is a very significant fact that at those periods in history the Irish appear to have had the artistic side of their character well developed, for their skill in craftmanship was

truly remarkable.

Many examples may be seen in old jewellery and silver ware, in Waterford glass, in Belleck pottery, which for purity and beauty of design and exquisite workmanship cannot be surpassed. Take the many beautiful examples of ironwork in which this country abounds, in museums and other public places, and consider that the man who have given us all those examples of their skill worked, comparatively speaking, with very few tools, and without any of those advantages which modern science has placed at our hands. At a later period in our history, any industsy that staggered to its feet again and held its ground, in spite of the knock-out blows dealt to it by English legislation, and the blighting influence of successive English Governments—such as the woollen, the linen, the lace industries, the silk and poplin trades, brass founding, the brewing and distilling trades, and many more that could be mentioned, all have managed to maintain themselves in the face of powerful rivals controlling vast sums of money. The building and allied trades are able to furnish a record of great achievement in the public buildings and magnificent private houses of this city; many of them I am sorry to say, fallen into decay, but there are still enough of them in a fine state of preservation to bear testimony to the skill and high artistic tastes of workmen in those

It reflects no great credit on us of the present day, with our State-aided schools of art, and all the institutions that are being reared up by Municipalities for the study of technical subjects if we have no better to show, but have to be content, and to sometimes take as our models the work done by men in those far off days, who were not spoon-fed by grants or endowments, but whose skill arose from earnest study and the exercise of a sound judgment, by close observation, by the exercise of a natural but critical instinct, which enabled them to produce examples of their craftmanship which remain a

living monument to their genius.

It has often appeared to me an extraordinary thing that the art of horseshoeing has been so long neglected and has not been able to make a stronger appeal to the attention of the public, even at the time when the horse occupied a more prominent place in the sporting and commercial life of the country than he does at the present time. Apart from the sentimental interest which every horse lover has in his mount, we in Ireland have always been conspicuous in our devotion to the horse. That devotion is so deep-seated in the national character wear a motor car has failed to destroy it.

Upon economic grounds the horse population of those countries is an asset of enormous possibilities. you reflect upon the number of valuable horses that are put out of action for considerable periods during their lifetime through defective shoeing, and the enormous sums of money that the loss of their services during those periods represent, not to mention the number of fine animals brought to a premature grave, one would have thought that the art of horseshoeing would have

claimed greater attention.

I am disposed to think that the veterinary profession cannot escape some amount of resposibility for this Whether the indifference to this subject arose from selfish motives or from ignorance of its details, or both, I am not prepared to say. But this I am prepared to say—that the profession should have been amongst the first to take the matter up and give it all the support in their

The art of horseshoeing occupies a place apart from any other art or craft. Most trades exercise their skill on inanimate objects. Here you are called upon every day to work upon a living, breathing thing—a thing capable of seeing, hearing and feeling, a thing of flesh and bone with a nervous system complex and mys-terious, a thing of beauty in form, and in the scale of

intelligence second only to man himself.

Ought it not to be your mission, then, to make horse-shoeing a work of close study and attention, especially when you think of the years of suffering those silent, devoted, uncomplaining labourers are compelled to endure; the victims of ignorant interference or self-suffi-cient incompetence. Is it not a laudable ambition in each one of you to seek to know and to understand all that is to be known on so important a subject. To render your services more valuable and lessen the burden imposed on many a silent sufferer and enable him to support existence free from pain, to the end of his labours.

In attempting to consider a few of the common errors in shoeing I must claim your indulgence, for the reason that I propose to deal with the subject only in a very superficial way. It is a wide subject and much can be written on any one branch of it. I am not unmindful of the fact that I am speaking to men who have devoted the greater part of their lives to the practice of horseshoeing, whose minds are formed and whose methods and manners of thought are fixed. I don't hope to make any converts, all I hope for is to arrest your attention and to arouse your interest, to set you thinking, and reading what is set down for you in books: to induce you to exercise more of your brains and less of your muscle, and to help you to a better understanding of the importance of the work in hand.

THE VALUE OF ANATOMY.

Let me start by offering a few remarks on the necessity of acquiring a clear and distinct knowledge of the horse's foot and the structures within it. Without this you cannot have a clear understanding of your work or excite anything like enthusiasm in it; you will continue doing things without any distinct reason for what you are doing. A working knowledge of the natural structures and functions of a horse's foot may be acquired in a comparatively short time by any man who chooses to fix his attention on it.

Having said this, let me strike a note of warning. Don't go on the assumption, after reading up the subject carefully, that you know all about it, and don't attempt to go too deeply into what anatomists call the physiology of the foot; for in that way danger lies. Take what is set down for you by the most reliable authorities, and remain content with that until by study you that the prevailing weakness to be in the fashion and to may be in a position to advance new theories of your own. But don't fail always to remember that men who have devoted almost all their lives to the study of this subject both scientifically and practically still remain in

sharp conflict with one another upon it.

For the moment it is all the same to you whether the horse's foot in the act of progression expands at the heel and descends at the sole when it reaches the ground. What really matters is, to study what is set down for you and try to master that thoroughly.

PREPARATION OF THE FOOT.

The next thing that claims your attention is the preparation of the foot for shoeing. Most men, even of very superficial knowledge and less skill, may prepare and shoe a healthy and well developed foot for a time, until his want of skill shall have so mutilated and rendered that foot both unhealthy and ill-developed. It is then that your well trained mind and technical skill will get its opportunity and come in for its own, and by rational methods of shoeing you may be enabled to restore the foot to its normal condition.

All reliable authorities agree that the foot should be treated on conservative principles, that is to say, nothing should be sacrificed or destroyed; always keep before your minds the fundamental and incontrovertible fact that there is nothing superflous in nature. If we are not able to find a use for a thing, that is no argument

that it has no use.

The greatest achievement that modern surgery has been enabled to accomplish is to remove some impediment that obstructs the proper discharge of nature's

functions.

If a horse's foot has grown to abnormal proportions, reduce what has grown in excess of its natural requirement—lower the walls, shorten the toes, remove excessive growths from the sole and frog, but never reduce or interfere with their natural structures or the structures of the bars. Use all gently, and so adjust the foot as to make it fall in line with the structures lying immediately about it.

THE MAKING OF SHOES.

In speaking of the making and fitting of shoes it is sufficient to confine myself to the system and methods adopted in Dublin. Most men like to fit the shoes they make themselves. By exercising a little judgment in this particular much time and labour may be saved when the shoe comes to be fitted later on.

The first great essential in making shoes is to keep your tools in proper order. The fuller, the stamp, and the pritchels must be kept in perfect condition.

In making harness-horse shoes the calkin or heel should be trimmed in such a way, and the shoe so shaped, that nothing remains to be done when the shoe comes to be fitted except to "knock out a clip" and prepare for fitting or adjusting to the foot. In making fore-shoes an attempt should be made to put some life into them, so to speak, and relieve them of their dead weight of iron. This may be done by slightly seating the shoe on the inside bottom edge.

In making cart-horse shoes, all the strength of the iron should be left at the toe, and at the heels: the quarters should be reduced and thinned at the outer edge. By this means, when the shoe is properly fitted it is brought in close proximity with the weight sustaining portion of the wall and sole; the head and the neck of the nail grip the foot at a point where the sustaining power is at its greatest, instead of being swallowed up

in a useless waste of iron.

FITTING SHOES.

Having the foot properly prepared, and having selected from your stock the shoe most suitable, take a mental picture of the shape of the horse's foot—carry in your reasons why we commonly hear it said that the long mind, as far as you can, an exact copy of the foot itself, the shoes are on the sounder the horse appears to go.

and direct your operations accordingly. Take out the clip, above all things, at the centre of the toe of the shoe, and let the size of the clip be in proportion to the size

Some authorities tell us that large clips are dangerous and injurious to the foot. So they are, and so also are small clips—equally dangerous and more injurious. A well taken out clip properly fitted to the toe of a horse's foot is, in my judgment, a direct support in keeping the shoe in the proper position on the foot, and is a very material support to the nails. It is a common practice in fitting shoes to cut a semi-circular piece out of the toe of the foot to make provision for the reception of the clip. This is a mistake; for if you examine the base of a clip at the inside bottom edge it presents an almost perfectly straight line, so when provision is made for a clip it should follow the line described by the base of the

There is a point of great importance to which I desire to call special attention, that is, the senseless practice, which I regret to say is all too common, of bringing a red hot shoe to a horse's foot. We are told that horn is a poor conductor of heat; that is no justification for so barbarous a practice. A man who is anxious about his work and who brings a red hot shoe to a foot defeats his own purpose. He envelopes himself in a cloud of smoke and is unable to see what he is doing, with the result that within a short time he inflicts a serious injury on the foot before he can accomplish his purpose. In order that a shoe may be properly fitted, it should be brought to the foot moderately hot, the clip should be placed at the centre of the toe, and the outline of the of the foot and the shoe should be followed and compared on either side. Whatever alterations are necessary should be made on the shoe the share or natural. sary should be made on the shoe, the shape or natural outline of the foot should never be sacrificed. If any defect appears anywhere at the extremity of the wall the shoe should be "boxed up" to furnish that defici-ency. When you are satisfied that the shoe is fitted properly, let it alone, all that it is necessary to do is to back pritchel it. Always remember a shoe more or less contracts in the cooling.

SHOEING CASES OF LAMINITIS.

Some of the commonest abnormalities found in horse's feet result from laminitis. This condition is divided into three definite stages—the acute, the sub-acute, and the chronic. Structural changes seldom occur in the purely acute stage. It is only when pathological changes take place in the foot as the result of an acute inflammation that you will be called upon to deal with them. The wall of the foot at the heel appears to take on an abnormal growth, the sole descends, the toe lengthens, a hollowness appears in the front of the foot, and rings appear on the walls.

In these conditions the heel and toe should be lowered and the quarters permitted to remain. On no account, at any time, should the sole be reduced, especially in the region of the point of the frog. Any weakening of the sole at that point facilitates a descent of the pedal bone with disastrous, if not fatal results. A shoe wide in the web should be applied, to afford protection to the sole. The shoe should be thinned at the toe and the heel for the purpose of transmitting concussion indirectly from the affetced parts and, as far as possible, to relieve congestion in the blood-vessels and facilitates the circula-

tion of new and healthy blood to the parts.

It is of the utmost importance that the ground surface of the shoe should present a perfectly smooth surface: for anything which creates the slightest jar proves painful to a highly sensitive foot, and materially interferes with a return to soundness. This is one of the reasons why we commonly hear it said that the longer

SHOEING CASES OF RINGBONE.

Veterinary Surgery recognises two distinct forms high and low ringbone. It is to the low form of ringbone that I desire to particularly direct your attention. It is the most insidious form of this disease, because it involves the articulation between the os coronæ and os pedis, and in an aggravated form of the disease destroys all movement and completely locks the joint. grace and delicacy of movement so common in a sound horse is here completely destroyed, and gives place to a stilted, or what might be more properly described as a shuffling gait.

Calkins in those cases should be avoided, and give place to a shoe rounded off at the toe and heel, and the quarters slightly thickened, so as to give a modified rocker movement, somewhat on the lines laid down for shoeing in chronic laminitis, and for the same reason-

lessening the concussion.

SHOEING IN CASES OF CORNS.

Much has been written, and much remains to be written, as to the best means of shoeing in cases of corns. Some veterinary surgeons whose opinions are entitled to the highest respect become very dogmatic, and lay down very specific instructions as to their prevention and cure, and the best methods of sheeing to bring about that desirable end. But sometimes, when you examine their methods and reduce them to the level of work-a-day practice, most of their pet theories and nice distinctions vanish into thin air, and you find yourself landed high and dry on the bleak and sometimes barren waste of your own resources. The horse is there, he has got corns, and it's up to you to make him sound by whatever means you adopt—and to keep him

If you ask me why do horses have corns at all? it would be better for you not to wait for an answer. Let

echo answer-why?

Anatomists tell us that the structure of a horse's foot are weaker and differently developed on the inside than at the outside of the foot. That corns arise at the inside of the heel because the shoes are obliged to be kept shorter and closer at that point. The same argument holds good for the hind feet. Yet we seldom find corns in the hind feet. Another eminent authority tells us, that the corns are entirely due to the fact that the inside heel of a horse's foot falls directly within the centre of gravity of the body, and therefore has to support most weight.

Yet I have seen, and you have seen, some horses working hard all their lives and living to a ripe old age that never had a corn in their lives, although during that time they were very indifferently shod. While I have seen young colts that never had a shoe on in their lives with deep-seated corns. How is it that mules and donkeys seldom, if ever, have corns? Are corns hereditary? If spavin, ringbone, sidebone, and navicular disease are hereditary, why not corns hereditary? May it not be reasonable to suppose that corns are hereditary.
But from whatever cause they arise, we are perfectly

certain 98 per cent. of them follow upon a reckless use of the knife; and undue pressure from defective shoeing is the most fruitful cause. If you have a horse lame from what you believe is a corn, it would be courting disaster not to pare it out and give exit to pus. But on no other ground can you justify the use of the knife. If you do use it indiscrimately you court disaster in the other direction by opening the door to infection.

You have a large choice of shoes to use in those cases, open shoes, bar shoes, tips, \(\frac{3}{4}\)-shoes, \(\frac{3}{4}\)-bars, and a variety of others, all of which have given good results.

Macqueen, Professor of Surgery in the London Veterinary College, who taught me and hundreds of others, and staked his great reputation on the statement that he never knew a horse to go lame from a case of un-complicated sidebone; and there is not a day that I have been in practice that has not brought me more firmly round to conviction of the truth of that statement.

I am convinced that a horse with a sound, welldeveloped foot never goes lame from that cause. If you want to find the cause you will have to look elsewhere for it. If you have a weak foot with weak heels then you will find lameness, and the lameness will be due to defective shoeing, in all probability. No harm, but good can be done by giving a horse with sidebone plenty of room on the outside of his foot. That in my opinion is all that is necessary.

SHOEING CASES OF NAVICULAR DISEASE.

Here we meet again on the common ground of noninterference with the foot. In the Charlier shoe we can most accomplish this. This gives frog pressure, and you reduce complications almost to the vanishing point. Where structural changes have taken place thick heeled shoes may be applied.

I don't intend to deal with forging, over-reaching or peedy cutting in horses. These very often are as much he fault of the coachman as they are of the horse.

The work in which the Department of Agriculture is at present engaged—in establishing classes throughout the country for Technical Instruction in Horse-shoeing is useful and profitable work, and is destined to be productive of good results. The advantages to a veterinary surgeon engaged in practice to have to deal with a man technically educated in horse-shoeing, and competent to grasp the complications that so frequently arise in a city practice, are so obvious that it is not necessary to state them in order that they may be understood.

It has given me very real pleasure to come amongst you to-night and be afforded the opportunity of being the first to give your new organisation a start upon its mission. You are engaged in a good work, you are engaged in rescuing an honest, honourable, and interesting calling from the slough of ignorance and neglect in which it has been steeped for many years. Your Secretary, Mr. Colman, is well fitted for the work he has undertaken. He has youth, ability, energy, and enthusiasm; these are great possessions. He has struck the right note, and is moving in the proper direction. Any man who is out to do pioneer work finds himself up against stiff propositions. He has to bear down prejudices and petty jealousies of all sorts and be prepared to find himself misunderstood. But whatever happens the thing is to go on, and one can always console himself by the reflection that what he has done has been done through sincere and honest motives, and a deep desire to leave things better than he found them.

THE FINANCES OF OUR COLLEGE. To the Editor of the Veterinary Record.

I have just been reading an account of the last meeting of the R.C.V.S. The financial statement, although not without hope, is disgraceful. To think that in the rich British Isles a profession like ours could stand aside and allow such a state of affairs is indeed appalling.

In 1917, out of about 3000 members, only about a third came to the rescue, the other 2000 keeping their

hands tight in their pockets.

Shoeing Cases of Sidebone.

I look back with the keenest sense of pleasure to the there are so many who stand aloof, who could easily time when I had the privilege of sitting under Prof. afford a guinea a year to our college. A neighbour of mine in good practice, with County Inspectorship, has not yet given a farthing.

An old friend of mine in large practice, who married

an heiress-not a cent.

Another neighbour in large practice with an income of anything up to £1200 or £1400 a year has not yet subscribed.

A bachelor friend in good circumstances protests

keenly against subscribing. I could go on.
Of course, there is a certain proportion of the men in our profession who, when they leave college, forget at once and for ever that there is a R.C.V.S. They are, each of them, a god unto himself, and as a rule they are very successful practitioners. They may perhaps get veterinary papers-perhaps not-but never read them, only look on them as so much scrap. And it is more in regard to this class that I agree with the hint thrown out by that grand old man of the profession—Mr. Salusbury Price, at a Council meeting—that to circular-ise members would prove profitable. A nicely worded circular with a printed form enclosed to say how much the M.R.C.V.S. would give, etc., with a penny stamp on the envelope, would look impressive. I am certain it would prove of good effect, and it is just probable that the class of men I have just described would as soon as not send a cheque forthwith. The fact that our College is in low water would appeal to them. I cannot think for a moment that any of our members who could afford a guinea would stand aside and see our College collapse. If there are such, shooting, in my opinion, would be too good for them.

Supposing by any means our College were to collapse for want of funds, what a degradation it would be to our profession in the eyes of the public.

There is another side to the question. What of the good and true men who, year in and year out, attend meetings of our College, with no recompense, only to be faced with this confounded shortage of money? Wake up, brothers! and relieve the anxiety of our councillors. you do not, you are showing very little respect to the men who so generously give of their time to run the show and keep things right. Send in your guineas in such numbers, and keep it up, so that the cry "Wolf! may be abolished for ever.—Yours, etc.,

19th Jan., 1918.

M.R.C.V.S.

Prosecution by the R.C.V.S.

With the consent of both parties, the Recorder affirmed With the consent of both parties, the Recorder affirmed the decision of Balbriggan magistrates fining Edmond Burke, Balbriggan, £10 for signing a cheque "Edmond Burke, V.S." Mr. W. E. Wylie, K.C., who, with Mr. J. C. R. Lardner, M.P., (instructed by Mr. P. Tallon, Drogheda), appeared for the respondents, the Royal College of Veterinary Surgeons of Ireland and Mr. Boyd Gardiner, V.S., Drogheda, said they were contending not for a penalty but for a principle—that a person was not. for a penalty, but for a principle—that a person was not entitled to practice as a veterinary surgeon without being on the register of the College.

Mr. T. W. Browne (instructed by Mr. C. Friery), submitted, for appellant, that the cheque was not signed for the purpose of holding himself as a veterinary surgeon, but was necessary to identify this particular cheque in some way, as others had been stolen, and the words V.S. were added. Defendant was prepared to undertake that he would not again sign himself as a V.S., and asked

that the fine be reduced to £1.

His lordship, in staying execution, remarked that "the local cow doctor was often better than any vet."—The Irish Independent.

[We have printed this report verb. et lit. It is referred to on a previous page.]

ARMY VETERINARY SERVICE.

Jan. 12.

The following Dispatch has been received by the Secretary of State for War :-

General Headquarters, June 28, 1917. My Lord,-In accordance with the concluding paragraph of my Dispatch, dated 28th June, 1917, I have the honour to enclose a list of those Officers, Ladies, Non-Commissioned Officers, and men, whose names I wish to bring to your notice for gallant or distinguished conduct in the Field, or for other valuable services :-

I have the honour to be, my Lord, Your most obedient Servant, A. J. MURRAY, General Commanding-in-Chief, Egyptian Expeditionary Force.

STAFF. Col. (temp. Brig.-Gen.) E. R. C. Butler, c.m.g., F.R.C.V.S, late A.V.C.

ARMY VETERINARY CORPS.

Cpl. (actg. Staff Sgt.) C. Boyd, R/376; Pte. (actg. Staff Sgt.) F. E. Palmer, SE/2426; Pte. (actg. L. Sgt. J. Payton, SE/7661; Pte. (actg. Sgt.) R. S. W. Robinson, R/606; Capt. V. A. Bartrum; Capt. J. Cameron; Capt. (temp. Maj.) P. McIntyre; Pte. (actg. Sgt.) M. Carmichael, TT/02622 (died of wounds); Pte. (actg. Sgt.) G. W. Layne, TT/04369 G. W. Jeynes, TT/01208.

NEW ZEALAND A.V.C.—Maj. J. Stafford.

War Office, Jan. 16. The names of the following have been brought to the notice of the Secretary of State for War by General Sir Edmund Allenby, G.C. M.G., K.C.B., Commanding-in-Chief, Egyptian Expeditionary Force, for distinguished service in connexion with military operations under his command:

STAFF.

Capt. (temp. Maj.) F. W. C. Drinkwater, A.v.c.

ARMY VETERINARY CORPS.

Temp. Qrmr. and Hon. Lieut. J. R. Devereux; Temp. Qrmr. and Hon. Lieut. C. McPhail; Temp. Capt. (actg.

Qrmr. and Hon. Lieut. C. McPhall; Temp. Capt. (actg. Maj.) R. W. Simpson.
Pte. (actg. Cpl.) H. T. Beamon, SE '1166; Pte. (actg. Cpl.)
W. J. Down, SE '11290; Sgt. (actg. Staff Sgt.) W. Field,
R/403; Pte. (actg. Sgt.) R. Goodall, TT/02608; Pte. (actg. Sgt.) R. W. Harris, SE/5676; Pte. (actg. Sgt.) G. E.
Kendle, SE/12303; Pte. (actg. Staff Sgt.) J. Newell,
R/467; Pte. (actg. Sgt.) R. Telfer, SE/5602; Capt. C.
Holland; Capt. (actg. Maj.) W. N. Júrgensen; Capt.
J. Sheffield J. Sheffield.

AUSTRALIAN A.V.C.

Maj. A. H. Robin; Sgt. H. W. Payne, 192.

BIKANIR CAMEL CORPS (INDIA).

Sepoy (Vety. Asst.) Bhahrum Singh. 1161; Havildar Chiman Singh, 1001.

War Office, Jan. 18. The King has been pleased to confer the following rewards for gallantry and distinguished service in the Field:

THE MILITARY CROSS.

Temp, Capt, F. C. Gillard, A.v.c.

York Cottage, Sandringham, Jan. 23.

The following Officers had the honour of being received by The King, when His Majesty invested them with the Insignia of the respective Divisions of the Orders into which they have been admitted:—

THE DISTINGUISHED SERVICE ORDER. Lieut.-Colonel Gerald Conder, Army Veterinary Corps.

THE MILITARY CROSS. Capt. Stanley Fletcher, Australian Army Vety, Corps.

Extracts from London Gazette. WAR OFFICE, WHITEHALL, Jan. 10.

REGULAR FORCES. ARMY VETERINARY CORPS. Temp. Lt. to be temp. Capt.:—R. J. Milner (Dec. 20, '17).

Maj. (temp. Lt.-Col.) D. Bolton to be actg. Col. whilst holding the appt. of Dept. Dir. of Vet. Servs., Cav. Corps, vice Maj. (actg. Lt.-Col.) P. J. Harris (Aug. 19,

1917). Jan. 16. Col. (Hon. Maj.-Gen.) F. Smith, C.B., C.M.G., ret. pay, to be Asst. Dir.-Gen (Dec. 26, 1917).

Jan. 19. Temp. Lt. to be temp. Capt.:—C. K. Calder (Jan 3). To be temp. Lt.:—J. A. A. Houde (Dec. 8, 1917).

Jan. 21. Capt. G. H. Farrell (T.F.) to be actg. Maj. whilst holding appt. of Dep. Asst. Dir. of Vety. Servs. (Dec. 4, 1917).

Temp. Lt. T. A. Elam relinquishes his commn. on acct. of ill-health (Jan. 22).

To be temp. Lieuts.: -G. C. Lawrence (Dec. 14, 1917); T. LeQ. Blampied (Jan. 4).

Jan. 22. Dep. Asst. Dir. of Vety. Servs.:—Temp. Capt. (actg. Maj) W. G. Stedman, Canadian A.V.C., from Asst. Dir. of Vet. Servs., and to retain his actg. rank while so empld. (Dec. 27, 1917).

SPECIAL RESERVE OF OFFICERS.

Jan. 21. Lts. to be Capts.: E. C. Bowes, P. F. Woodland (Jan. 3).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Capt. (temp. Maj.) F. V. Pawlett relinquishes the temp. rank of Maj. on alteration of posting (Jan. 3).

The A.V.C. Comforts Fund.

[The following extracts from letters received were unavoidably held over last week.]

"The parcel arrived at a very opportune moment. The Section was in the middle of its Xmas dinner, and your presents were issued at the conclusion of the meal. It was a veritable Santa Claus' bag, and the contents were just what the men required most in this country. We are now in Italy, and the warm home knitted sox and mufflers will be of the greatest value during the coming cold weather. The games will be appreciated here also, as after their day's work is over, there is very little for the men to do."

"Just a line in which to thank you, also the donors, which help you to send us comforts through the A.V.C. Comforts' Fund. I am sure that the gifts have been greatly appreciated by N.C.O's and men of this section which was received a day or two ago, I may add, and I think that you will agree, that the fairest way of distribution was by lotting the articles and each one drawing for them, so that each one had a share. It appeared to me to be the fairest way and every one was satisfied. past in waterworks procedure have been due to lack of The articles arriving at a time when they came in very biological knowledge.—Brit: Med: Jour:

useful owing to the state of the weather, which was very cold and frosty, and a bit of snow too. Again thanking one and all for their kind gifts, and wishing you every success."

"A very handsome parcel of gifts has arrived here today in perfect condition. I have distributed the articles among the men of this unit, who, I am sure, will find the mufflers, mits, socks, etc., most acceptable during the coming winter, and the games entertaining. On their behalf I beg to thank you for the things, for the good wishes which accompany them, and the kindly spirit which prompted the sending of them."

"On behalf of myself, N.C.O's and men of the 19th Mobile Veterinary Section I wish to thank you for the splendid parcel which arrived to-day. It was much appreciated by all, and is just what most require. I am sure we all hope that it will not be necessary for us to spend many more Christmases in the war zone. This is our first in France, the last two were on the Sinai and Gallipoli Peninsulas respectively."

OBITUARY.

FREDERICK PROCTOR, M.R.C.V.S., Oldham Road, Man-Graduated, Lond: April, 1873. chester. Deceased 14th January, aged 65 years.

JOHN WINTFIELD REYNOLDS, M.R.C.V.S., Hyde Park, Mansions, London, N.W.

Lond: May, 1891 Mr. Reynolds died on 16th January, aged 49. ROBERT EVANS THOMAS., M.R.C.V.S., Llanuwchllyn.

Edin: July, 1885. Death occurred on Jan. 16th, at the age of 52.

The Biology of Waterworks:

The seventh of a series of highly useful pamphlets dealing with economic subjects from the scientific point of view issued by the British Museum authorities deals with the biology of waterworks. It is by R. Kirkpatrick, assistant in the Department of Zoology. Printed by order of the Trustees of the British Museum. 1917. Price 1s. The importance of the subject is evident, as it involves questions of taste, smell, and physical appearance of water, mechanical blocking of pipe lines, sandfilters and screens, and generally the purity and safety of potable water. Mr. Kirkpatrick has dealt in an able and lucid manner with the important problems which confront water-engineers, chemists, bacteriologists, and biologists. The author uses the word disinfection as synonymous with sterilisation. This may be perfectly correct, but is perhaps unfortunate in relation to water supply, as the public are apt to associate disinfectants with cesspools, drains, and generally noxious matters. Under Section 1, "Animals that may be Associated with Water-supply," the author gives a most fascinating account of the pipe-fauna found at Hamburg.

Before filtration of the river water, protozoa, sponges, hydrozoa, worms, mollusca, polyzoa, crustacea, eels, etc., were freely found. When sand filtration was introduced in 1894 the whole pipe-population died of starvation due to the cutting off of the food-supply of organic particles (diatoms, debris, etc.) carried in with the current. Not less interesting is the section devoted to "Plants that may be Associated with Water-supply." Such growths as tabellaria, fragilaria, synedra, cyclotella, asterionella, spirogyra, hydrodictyon, chara, anabæna, oscillaria, crenothrix are dealt with and a number of illustrations are given. No thoughtful person could possibly read this pamphlet without coming to the inevitable conclusion that many of the errors of the

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

	200			Anthrax		and-1	Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Swine Fever.	
Pe	riod.			Out- breaks (a)	Ani- mals.	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.				i		<u> </u>		1				i ''i		
V	Veek e	nded Jan	. 19	8	8					133	255	19	13	5
Corresponding week in	{	1917 1916	:::	7 17	7 19			2	7	97 111	190 294	42 20	38 66	12 288
		1915		17	18	<u> </u>		1	2			11	77 _	296
Total for 3 weeks	s, 1918			21	23			1	2	438	391	69	56	19
Corresponding period in	{	1917 1916 1915		47 44 58	50 46 64			1 3 2	1 12 4	245 291	532 820	101 69 52	123 233 260	46 731 1172

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive (a) Confirmed. (b) Reported by Local Authorities. + Counties affected, animals attacked :-Board of Agriculture and Fisheries, Jan. 22, 1918. Excluding outbreaks in army horses.

IRELAND. Week ende	d Jan. 12	1	· · ·	 · · ·		 Outbreaks 4	9		
	1917	1	1	 		 	21	3	28
Corresponding Week in -	1916			 		 1	14	8	29
	1915	1	-:	 ·		 2	14	2	24
Total for 2 weeks, 1918				 		 8	26	•••	
	(1917	1	1	 	1	 1	41	6	41
Corresponding period in -	1916	1	5	 		 4	27	9	29
	1915			 		 2	24	5	29

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 14, 1918. * As diseased or Exposed to Infection Note.—The figures for the Current Year are approximate only.

Veterinary Societies-Addresses.

BORDER COUNTIES V.M.S. Pres: Mr. H. Barrow, M.R.O.v.S., Ireby, Carlisle Hon. Sec: Mr. R. Craig Robinson, M.R.C.v.S., Carlisle Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S. Hon. Sec. Mr. John S. Keane, 11 Falkland Mansions, Kelvinside

ROYAL VETERINARY COLLEGE V.M.A. Pres. Capt. J. T. Edwards, B.Sc., M.R.C.V.S. Treas: E. S. Shave, Esq., F.R.C.V.S., M.R.C.S Sec: Mr. B. Gorton, M.R.c.v.s. Asst. Sec. C. W. Heane.

Association of Veterinary Officers of Health Pres: Mr. T. Douglas, M.R.C.V.S., Kilmarnock Hon, Sec. & Treas. Mr. A. M. Trotter, M.R.C.V.S., Moore Street, Abattoir, Glasgow

NATIONAL ASSOCIATION OF VETERINARY INSPECTORS Pres: Mr. J. Abson, F.R.C.v.s., Sheffield Hon. Sec: Mr. Trevor Spencer, M.R.C.V.S., Kettering

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Hon. Sec: Mr. J. F. Mahony, M.R.C.V.S., Caroline St., Cark

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10 Red Lion Square, London, W.C. 1.

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Royal College of Veterinary Surgeons.

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Secretary and Registrar: Mr. Fred Bullock. 10 Red Lion Square, London, W.C. 1.

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11 Anchor Terrace, Southwark Bridge, S.E. Treas: Prof. G. H. Wooldridge, F.R.C.V.S. (Acting Hon. Sec), Ryl. Vet. Coll., Camden Town N.W.

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Grosvenor-street, Manchester Hon. Sec. Mr. J. W. Brittlebank, M.R.C.V.S., Town Hall, Manchester

Hon. Treas: Mr. L. H. Stent, M.B.C.v.s., Preston-st, Hulme Meetings, 1st Thursday in April, June, Sept., & Dec.

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Hon. Sec: Mr. A. Walker, F.R.C.V.S., Mill Lane, West Derby Pathological Sec: Mr. D. C. Matheson, F.R.C.V.S. Meetings, May, July, October, January.

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Pres: Mr. J. Malcolm, F.R.C.V.S., Birmingham

Hon. Sec: Mr. J. Dawes, F.R.C.V.S., Birmingnam

Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S.,

Camden House, High-st., West Bromwich

Hon. Treas. Mr. J. J. Burchnall, M.R.C.V.S., Barrow-on-Soar

Meetings, Second Tuesday, Wednesday, Thursday, and

Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.

Pres : Hon. Sec: T. T. Jack, M.R.c.v.s., 3 Elmwood-st, Sunderland Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH MIDLAND VETERINARY ASSOCIATION Pres: Mr. W. Collinson, M.R.C.V.S., Auston, Sheffield Hon. Sec: Mr. J. S. Lloyd, F.R.C.v.s., Sheffield

NORTH WALES V.M.A. Pres: Mr. Hugh Williams, M.R.C.V.S., Ty Croes Hor. Sec. Mr. L. W. Wynn Lloyd, M.R c.v.s., Carnarvon Meetings, First Tuesday, March and September

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A. Pres: Mr. J. M. Walker, F.R.C.V.S., Hartlepool Hon. Sec. & Treas : Mr. F. H. Sanderson, M.R.C.V.S. Victoria Road, Darlington Meetings, First Friday, Mar., June, Sept. and Dec.

YORKSHIRE VET. ASSOCIATION Pres. Mr. S. E. Sampson, M.R.C.V.S., Hillsboro', Sheffield Hon. Sec; Mr. J Clarkson, M.R.C.V.S., Garforth, nr. Leeds Hon. Treas: Mr. A. McCarmick, M.R.C.V.S.,

Southern Branch:

Pres. Sir Stewart Stockman, 4 Whitehall Place, S.W. Sec.

Kirkstall-road, Leeds

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Meetings (pro. tem.), First Thursday in October and alternate months, except August, 10 Red Lion Square, Holborn, at 7 p.m

Pres. Dr. O. Charnock Bradley,

NORTH OF SCOTLAND V.M.S. Pres: Mr. W. Hepburn, F.R.C.V.S., Aberdeen. Hon. Sec. & Treas: Mr. G. Howie, M.R.C.V.S. Alford, Aberdeen

Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty. SCOTTISH METROPOLITAN V.M.S.

Pres: Mr. J. Riddoch, M.R.c.v.s., Edinburgh Hon. Sec. & Treas: Mr. Jas. Henderson, M.R.C.V.S.

Public Health Dept., City Chambers, Edinburgh WEST OF SCOTLAND V.M.A.

Pres: Prof. John R. McCall, M.R.C.v.s., Vety. Coll. Glasgow

Hon. Sec: Mr. J. F. Macintyre, M.R.C.V.S. 19 Bank Street, Hillhead, Glasgow

Hon. Treas: Mr. Geo. W. Weir, M.R.C.V.S., 88 Crookston Street, Glasgow Meetings, Second Wednesday, May, Oct. and January

Meetings, Second Thursday Feb., June, and October ROYAL COUNTIES V.M.A. Pres: Mr. J. Willett, M.R.O.V.S., 6 Harley Place, N.W. Hon. Sec. & Treas: Mr. G. P. Male, M.R.C.V.S., Reading

Long Stanton, Cambridge

Meetings, Last Friday, Jan., April, July and Nov. SOUTHERN COUNTIES V.S.

EASTERN COUNTIES V.M.A. Pres. Mr. T. E. Barcham, M.B.C.V.S., Paston, Norfolk Hon Sec. & Treas: Mr.A.C. Holl, M.B.C.V.S., New Buckenham

LINCOLNSHIRE AND DISTRICT V.M.S.

Ton. Sec: & Treas: Mr. Tom Hicks, M.R.C.V.S., Boston Road, Sleaford

Meetings, Second Tuesday, Feb., July and Sept.

Pres: Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex Hon. Sec: Mr. J. T. Angwin, M.R.C.V.S., Arundel (on Service Hon. Treas: Mr. E. W. Baker, M.R.C.V.S., Wimborne Meetings, Last Thursday, Mar., June and Sept.

SOUTH EASTERN V.A. Pres. Mr. E. Lyne Dixson, M.R.c.v.s., Margate Hon. Sec. & Treas. Mr. H. P. Hogben, M.R.C.v.s.

3 Manor Road, Folkestone WESTERN COUNTIES V.M.A. Pres: Mr. W. Roach, F.R.C.V.S., York Rd., Exeter Hon. Sec. Mr. W. Ascott, M.R.C.v.S., (on Service) Mr. C. E. Tucker, M.R.C.v.S., 7 Greville St., Bideford (pro.tem.) Hon. Treas: Mr. P. G. Bond, M.R.C.v.s., Plymouth
Meetings, Third Thursday, March, July and November

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Pres: Hon. Sec. Mr. E. C. Winter, F. B.C.V.S., Queen-st., Limerick Treas; Mr. J. F. Healy, M.B.C.V.S., Midleton

CONNAUGHT V.M.A. Pres. Mr. D. Hamilton, M.R.c.v.s., Ballina

Hon. Sec. & Treas. Mr. A. J. Moffett, M.R.C.V.S., Galway VET. MED. ASSN. OF IRELAND.

Pres: Mr. J. H. Norris, M.R.C.V.S., Dublin Hon. Sec: Prof. J.J. O'Connor, M.R.C.V.S., R.V. Coll., Dublin Hon, Treas: Prof. J. F. Craig, M.A., M.R.C.V.S. R.V. Coll., Dublin

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Scottish Branch:

Ryl. (Dick) Vet. Coll: Edinburgh Hon. Sec. Prof. A. Gofton, Muncipal Buildings, Edin.

Meetings, Last Saturday in January and August ROYAL SCOTTISH V.S.

RECORD VETERINARY

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1543.

FEBRUARY 2, 1918.

VOL. XXX.

THE RATIONING OF LONDON HORSES.

The discussion of this subject by the Central Society deserves wide publicity. It shows how seriously the present food supply is affecting horses in some parts of England, and especially in London; and in indicating the causes it does something towards remedying them. Any member having access to persons of influence or authority will find this

report helpful.

Grave as the subject is, the outlook appears far from hopeless. It is clear that the existing food ration is not insufficient for working horses, provided that the food is of good quality and the management prudent. Neither does there seem to be any real lack of good horse forage in the country at present. The fault lies in the methods of transport and distribution—the authorities neglect the importance of the food supply for horses in civil life, and the present horse wastage is the inevitable result. Various other contributory causes help to swell the losses-over-loading, over-driving, the inferior class of horse now available for London work, and the like. These factors, though some of them are capable of modification by careful managecause of the present losses. Faulty control of transport and distribution is the main cause; and the only means of remedying it is by pressure upon the authorities, supported by adequate data. The fact that at least some of the largest studs have no difficulty in obtaining supplies of good food shows that more might be done for the rest of London.

the present conditions. Such affections as those mentioned at the meeting can, at best, only derive some temporary benefit from treatment so long as the causes inducing them still persist. Veterinary influence, applied with a view to removing or modifying those causes, may be of more avail. The Central Society is doing what it can upon the right lines; and some individual members may find opportunities of bringing influence to hear in the same direction. Individually, also, in their daily intercourse with clients, practitioners may be able to do a little towards modifying such accessory causes of loss as arise chiefly from bad management. In many cases, and with many clients, little or no good will find that the remarks of His Honour the Recorder be done; but there are others in which great improvements may be effected. London veterinary surgeons engaged in horse practice have no enviable The decision of the Court is also given in greater task just now. Often all they can do is to help detail, and appears to be reasonable and just.

owners to make the best of a very bad business; but whoever does that effectively is aiding in the conservation of our dwindling stock of horses.

SALE OF HORSE FLESH AT PETERBOROUGH.

We reprint this week a paragraph which has been freely repeated in many of the popular newspapers: and our correspondent comments strongly on the veterinary surgeon concerned. But the information given in the said paragraph is limited to the fact that the license to sell has been issued. Looking first to the broader issue: at this time of stress there can be no possible objection to the use of horse flesh as a supplementary food, provided always that it is efficiently inspected. It has been so used on the Continent for years past, so has sterilised beef, whilst we, nationally, have been too fat and too proud to allow its use even to our poor. If now its use is likely to increase, where are efficient inspectors to be found? Amongst butchers, or knackers' men? Surely the best informed on pathological conditions of the horse are to be found in the ranks of the veterinary profession. The horse is a clean, even a dainty feeder—unlike pigs and poultry ment, are all more or less inseparable from war and is comparatively rarely infected with tubercuconditions; but they are not the most important losis. On the other hand, horses are very seldom slaughtered in fat condition except as sequent to an accident; and aged, worn-out animals are not nutritive food material.

On the narrower question: it is by no means evident that Mr. Westgate is taking any more interested part in the matter than acting as a licensee and inspector. It is thinkable that a man (or men) in the Veterinary science is of comparatively little meat trade may be the effective manager. Further, utility against the actual diseases resulting from it is also thinkable that Mr. Westgate may hold strong convictions, and is deliberately acting as a pioneer in the question of the use of horse flesh. And in this latter case, why is Mr. Westgate to be condemned, whilst in a parallel case in Glasgow, kudos is given to Mr. Trotter. Judgment is sus-

pended!

A MANGLED REPORT.

This week we are able to reprint a fuller report of the Balbriggan appeal which was commented upon in these columns last week. The surmise as to the deficiencies of the reporter is more than justified, and it is with not a little satisfaction we for Dublin were in a totally different strain from that imputed by the report we reprinted last week.

Marimum Potion in Octo

THE CENTRAL VETERINARY SOCIETY. [NATIONAL V.M.A.—SOUTHERN BRANCH.]

A Special General Meeting was held at 10 Red Lion Square, London, W.C., on Thursday, January 3rd, "To consider the ill effects upon horses of the present food supply; and to decide what steps can be taken to remedy or alleviate them." The Chair was taken at

remedy or alleviate them." The Chair was taken at 7 p.m. by Prof. G. H. Wooldridge.
The following Fellows signed the attendance book:—
Messrs. J. W. Baxter, F. W. Chamberlain, R. J. Foreman, A. E. Gostling, R. C. Irving, H. D. Jones, W. S. King, J. W. McIntosh, W. Perryman, W. Reekie, S. H. Slocock, E. L. Stroud, W. N. Thompson, W. Willis, and Hugh A. McCormack, Hon. Sec.
The CHAIRMAN said that letters of anology had been

The CHAIRMAN said that letters of apology had been received from: Mr. J. Willett (who stated that he would be pleased to support any proposition whereby the quality of feeding stuffs for London horses might be improved); Mr. Woolston, Mr. T. S. Price, and Mr. G. S. Heatley.

A letter was received from Mr. P. G. Bond, of Plymouth, in which he says: "I see by this week's Record that you are to have a meeting on Thursday next at the Central V.S. with regard to the injurious horse fodder now being used. I, like the rest of us, have had a good deal of trouble with it, and the question of the food of the horse, as a transport animal, requires the most care-

ful consideration.

"The loss of horses due entirely to errors in dieting is appalling, and when we remember the old-time fodder and how it was used, and that the average life of the horse was 27 years, it does indeed cause reflection. I know your Society is doing the right thing in calling a meeting to discuss such a subject, and I hope your

meeting will be well attended.' The President said the thanks of the Society are due to Mr. Bond for his letter. It is a matter of considerable importance to know that dietetic troubles in horses are occurring in the provinces as well as in London.

The question before the meeting was undoubtedly a very serious one. A large number of horses were at present laid up owing to difficulties in the transport of food, etc., and owners could not afford to allow this state of things to continue if any steps on their part could The great difficulty appeared to be in connection with hay. The larger studs were fairly well able to look after themselves, but the smaller owners had suffered greatly. Only last week a small horse owner had come to consult him with regard to two of his horses, both of which had for years been quite good workers. One had taken to stopping with a lighter than ordinary load, not exactly jibbing, but refusing to go on; the other, though also drawing a smaller load than he had formerly been accustomed to, had repeatedly fallen down; though a willing horse, the effort was too much for it. One of those horses had since had to be destroyed, having fallen in the stable, and it being impossible to get it up again. Mr. West had informed him recently that some horses had actually to be sent out to work without their morning feed. That state of things could not go on. He hoped in the course of the discussion to hear some useful suggestions in the direction of securing some amelioration of the conditions.

THE RATIONING OF HORSES AND SOME OF ITS ILL ILL EFFECTS DUE TO INSUFFICIENCY AND INFERIOR FOODS. By H. D. JONES, M.R.C.V.S.

Mr. President and Gentlemen,-I was persuaded by the President of the Central Veterinary Society to offer a few remarks and to open the discussion on this subject which is very important to veterinary surgeons hour.

say without fear of contradiction that the animals whose various ailments we are called upon to administer to are, in many cases, suffering very considerably from insufficiciency of food, and also to a greater extent from the very inferior quality of hay and mixtures that is given them.

It would probably be a wrong conclusion to come to that that is the one and only cause of the great deterior-ation amongst working horses in the metropolis. The following causes probably all aggravate their condition:

(1) A large number of animals are now entrusted to the care of boys who are without the slightest knowledge of horsemastership, and whose only thought seems to be to hustle the animals along independent of load or journey.

(2) Overloading. Loads quite out of proportion to their capability seem to be given to the animals.
(3) Longer journeys—probably owing to the shortage

of petrol.

Olean of house

(4) The very uneven state of roads, owing to want of

I wil just deal with the Grain Ration which was put into force in May, 1917; the following is the amount allowed to working horses :-

	Horses solely or mainly used for trade purposes.	Whe	en in bard and ntinual work.	W	hen not in ard work.
a.	Heavy cart or dray		16 lb.		12 lb.
	Trotting vanners		14 lb.		10 lb.
c.	Light horsee and cobs		11 lb.		8 lb.
d.	Ponies 14 hds. and un	der	7 lb.		5 lb.

If other grain is used-Maize, Beans and Peas, they shall be deemed to be the equivalent of oats in the following proportion:

7 lb. maize, or 9 lb. beans, or 9 lb. peas = 10 lb. oats.

My opinion is that 10 lb. oats is certainly a much more beneficial feed for hard working horses than 7 lb. maize, In September the equivalent was altered, owing, probably, to colder weather approaching, to:

 $7\frac{1}{2}$ lb. maize = 10 lb. oats. I think it will be agreed that the amounts of grains quoted above is considerably less, probably by about 4 to 6 lb. per diem than was commonly given to horses

before the rationing order came into force

The heavy dray or cart horses used solely for walking purposes, in my opinion, do fairly well on this amount of grain if—and I must say this is most important given with a liberal allowance of good hay mixture and straw—20% of the latter is compulsory. In feeding value, a mixture of oats, beans, and maize is probably most desirable, but the oat equivalent must not exceed 16. If these animals are overworked or trotted on this allowance (which, in my opinion, is a reasonable one in war time) they will certainly lose condition.

It is well known to most of us that a heavy horse will need more food than a lighter one but will be able to consume greater quantities of bulky foods-hay, straw,

roots, etc.

When not in hard and continual work the allowance of 12 lb. grain is fair, but this class of animal will benefit if diet is supplemented during winter months by a small

quantity of roots and dried grains.

(2) Heavy trotting vanners. This class of animal is, in my opinion, very hard worked; they are often given loads only suitable for walking horses, and they are frequently overdriven. The matter of speed or pace is of greatest importance because the energy expended increases very rapidly with the increase of pace. Experiments carried out by Luntz proved that the food required per unit of work, increased nearly 70 per cent. in altering the speed from three miles to seven miles per hour. This class of horse was originally classed as B in engaged in horse practice in London. I think one can the rationing order, and only allowed 14 lb. of oat equivalent per diem when in hard work; owing, however, to their getting very poor they were, in the September Order, put in Class A and allowed 16 lb. of oat equivalent.

I am sure that the most careful supervision as regards mileage and loads is necessary if the animal is to maintain anything like fair condition on this amount of cereal, with a good allowance of good quality chaff. It is amongst this class of horse that we have the greatest mortality, and there is no doubt that the trotting vanner can profitably consume more grain than the walking horse.

Veterinary surgeons should as far as possible point out to owners that work should be cut down in accordance with the rations, and that animals cannot be expected to thrive at all if worked excessively: further, poor animals should be relieved of heavy loads and

rested as much as possible.

Before finishing on the question of grain I should like to add that, considering the very difficult conditions under which grain is brought to the country, the present allowance is a fair one, and it cannot reasonably be expected that it will be increased. Every care should be taken that persons whose duty it is to feed horses should exercise the utmost economy in grains, and the animals should certainly only be fed in accordance with the work to be performed.

It is estimated that 5/12ths of a working horse's diet

is sufficient for those at rest.

I will now pass on to the question of hay and straw. For several months horse owners have been worried and at their wits' end to know how to obtain hay and straw. There have been many instances of horses being without hay, whilst much of the hay brought to London is of a very inferior quality. Whether it is loaded in the condition in which it is received it is difficult to say; probably a great deal of its deterioration is due to its being a long time on rail, and being unsheeted. The fact, however, remains that a considerable number of horses have for some time been fed on musty and bad hay. The following is a quotation taken from the London Corn Circular on the question of hay and The following is a quotation taken from the

straw.
"Supplies again arrived in extremely limited quantities, and all connected with the trade continued to experience the most harrassing situations. Consumers' ordinary wants, even, could never be supplied, and many anxious moments were unfortunately the lot of those in possession of horses. A great difficulty to be met now in country districts is that, Government requirements coming first, the ricks that are used for ordinary trade purposes are more often than not the most awkward to get at, which means that in these exceptional days of shortage of labour and horses a longer period has perforce to be taken in tying and conting fodder to the rails." carting fodder to the rails.

The question of hay cannot be treated in the same manner as cereals; it is the most important dietary. Bad and musty hay leads to waste of grain; and taking into consideration that 20% of chaff has to be straw, the feeding value of which is very doubtful—probably it requires more work in digesting than it supplies in

Another important point is that nearly all hay, in-dependent of quality, realises top prices. There is apparently no shortage of hay, but the present state of things is presumably due either to lack of transport or

to farmers not selling.

I understand that the members of the Horse Owning Associations in London and the Provinces have made strong representation on this subject to the Board of Trade and to the Horse Transport Controller, with the result that in cases of extreme urgency the Army Forage Committee have arranged to supply horse-owners in

London with a limited quantity of hay and chaff, but this supply only to be used in cases of emergency.

Surely something might be done whereby a fairly constant supply of good hay should be obtainable.

I have not yet made mention of carriage and riding horses that are not allowed any grain. I have seen many of these animals in very fair condition, if given a reasonable amount of good hay, and brewers' grains 4 to 6 lb. per diem, they will maintain fair condition. Probably one factor in this is that they are usually kept in very warm stables and worked only very lightly.

Some results of Malnutrition.

I will now pass on to some of the most important troubles that we are experiencing, due largely to the in-

sufficient and indifferent dietary.

Probably a good many practitioners here have been called to cases of horses which have fallen down and are unable to rise. Most of these animals seem to have completely lost control of hind quarters; they are mostly old animals; and usually have to be destroyed. This condition I have not met with amongst my own stud, but I have seen animals thus affected. I have, however, had a considerable number of animals suffering from debility.

Colic. The number of colic cases has been immensely increased by the dietary of bad hay and straw, and unfortunately a large percentage end fatally. A short time ago there was a very large number of cases of muco-enteritis, and many of these ended fatally; others were in a weak condition for some time. Twists have been much more frequent, and one has only to pay a visit to the knackers' yard to be convinced. It will be very interesting to me to hear any veterinary surgeon who can give the percentage of twists, ruptures, etc., in compari-

Taking four months of 1916 as compared with 1917.

My actual losses are as follows:—1916 - '26; 1917 - '75.

The total number of deaths from colic was increased three times, as against the corresponding period of the

previous year.

Considering that the stud comprises many carriage and riding horses, amongst which colic is extremely rare, it will be readily gathered that there is great increase in colic amongst draught horses. Unfortunately, I am unable to give the actual number of colic cases; fortunately many recover, but the actual number of days lost per annum through this trouble must be very considerable. Further, if this percentage was based only on the van and heavy horses, the percentage would be greatly increased. In all probability the losses of the larger firms are smaller in proportion to the smaller horse-owners. There is, generally speaking, more supervision of the studs, and animals are cast before they become very old, and they are more often rested when necessary.

Brushed coronets and fetlocks, due to weakness, are of common occurrence, and must be a costly item to horse-owners. So, too, are sore backs, etc., due to wasting of muscles and consequent galling. If one considers the very large increase of cost in replacement of the horses, the difficulty of procuring them, the overworking of the other animals for the time being, the extra expenditure entailed by getting suitable hay would

be many times saved.

Many horses are unable to draw their loads, and become what is commonly known as "nappy."

Briefly, I will summarise the following points:-

- 1. Insufficient, and indifferent quality of forage.
- 2. Mortality therefrom.
- 3. Financial loss from deaths and from inability to carry on transport.
- Finally, the humanitarian point of view.

Before concluding, I should like to suggest that some form of resolution, such as the following, be sent to the

Hay Controller.
"We, the Veterinary Surgeons of London, view with concern the increasing mortality and depreciation of horse power of the various London studs, due directly to the insufficiency and defective quality of food, chiefly hay; and while acknowledging the great services he has performed by arranging supplies in emergency in conjunction with the Army Forage Committee, we urgently desire him to consider that immediate steps be taken to ensure that an adequate supply of good hay be sent to the metropolis, and that for purposes of transport all such supplies be treated as food material."

DISCUSSION.

Mr. Perryman said he agreed with practically everything Mr. Jones had stated. It was a most deplorable thing to see in the streets so many poor, wretched, worn-out horses, often drawing quite heavy The chaff supplied nowadays was frequently of such poor quality that he often sarcastically remarked that he should not like to bed his horses with it for fear they should eat it; and that was the kind of stuff many of the smaller owners had to use.

He had never seen so many cases of colic as during the past three months; and he had never see so large a number of horses getting down and unable to rise as he had since the autumn. In many cases the horse was an aged animal; he had to do more work than formerly on a less quantity of inferior food, and, if he did not end as a case of muco-enteritis with some twist of bowel, he would fall down in the stable and be unable to rise.

What they ought chiefly to emphasize was the importance of bringing an adequate supply of horse food of good quality to London. Unless they could induce the Horse Food Controller to ensure a proper supply of food to the horses, the mortality would reach such a pitch that by the spring there would be very few horses left to do the work. Apart from the trade and financial as-pect of the question, he thought it behoved them as veterinary surgeons to lay stress on the humanitarian side—on the cruelty of working animals when unfit. Reverting to the question of bad food, he had seen animals which had been reduced to such a low ebb that even after having been rested and fed on good food had continued to sink, and later they had to be destroyed.

In regard to the alleged inability to transport horse food to the metropolis, in many cases trucks were kept waiting at country sidings for ten days or a fortnight, because it was impossible to load them on account of shortage of labour. In many such cases it would surely not be impossible for the military authorities to supply the men needed for this work. He emphasised the word metropolis in this connection, because he believed London was suffering more than any other part of the country. In other cases trucks loaded with hay had been detained at country sidings for several days on account of the difficulty of transporting them, and, in his opinion, a great deal of injury had been done owing to the hay having been put on to the trucks unsheeted. These were drawbacks which the Horse Food Controller should be asked to try to obviate. At the present moment the military authorities, in cases of emergency, were supplying the Master Horse Owners Association with fodder, but that did not apply to the small owners. The large owners were naturally less affected because they were able to "pull the strings" a little better. He believed the farmers had in many cases been holding back supplies for a rise in prices. He understood there was to be a rise of 2s. 9d. per ton as from the 31st January.

keep back a certain amount of forage. If the hay salesmen were allowed and enabled to get more stuff to London, the prices would be regulated by supply and demand. At present the farmer could get practically the top price for the greatest rubbish, and therefore the best hay was being kept back. He thought the resolution proposed by Mr. Jones would help greatly in the desired direction, and he hoped it would be unanimously

Mr. Thompson said that speaking as to the stud for which he was responsible, he had practically no com-plaints to make. The majority of the horses in that plaints to make. stud were of the heavy vanner type; they did fast work, covered a fair number of miles in the day, and did very well on the allowance of food laid down, namely, 16 lb of oats or its equivalent. In addition they had about $1\frac{1}{2}$ lb of bran per day. Of course, everything they had was of the very best quality, and they were well supersized. vised. If a horse was observed to be going down in condition he was stopped, and two horses were put on to do the work of one until condition was restored. Causes other than the question of either quantity or quality of food were operating to bring about the poor quality of many London horses. For instance, most of the best horses had been commandeered by the Government. The majority of those left were old, or they were inferior in constitution and general build. Many long-legged, flat-sided horses were seen about the streets whose condition would not be materially improved by

any amount of good feeding.

Of course, the question of the quality of food was an important one. There were oats and oats, and hay and There were also horses and horses, horsekeepers and horsekeepers, drivers and drivers. He thought 16lb of oats a day, with an equal weight, or a little more, of good hay, was sufficient for an ordinary day's work for an ordinary horse, at a slow pace. The difficulties of transport were very great; both men and materials were being constantly taken away, and there was great congestion over all the railway systems.

Everyone must admit that at the present time there was a great deal of rubbishy hay being carted about London. It seemed to him that if the Horse Controller could be also the Horse Provender Controller, he might be able to put his finger on the pulse of the whole thing. At present there too many fingers in the pie for the result to be satisfactory.

Mr. R. C. IRVING wished to correct one point on which Mr. Jones had unintentionally misled the meeting. It was not necessary to put 20 per cent. of straw in chaff when horse-owners made their own chaff. That provision only applied to dealers who manufactured chaff for the purpose of sale. The consumer who made his own chaff was not bound to put in any straw at all.

With regard to hay, there was also a point which had not been mentioned, namely, that any hay bought in the rick would, in future, have to be removed within thirty days of the purchase. This would still further increase the difficulty with transport, because it would be impossible to obtain a fresh permit within thirty

days.
Mr. R. J. Foreman said his practice lay principally amongst small owners, and it was these who were hard-est hit by present conditions. His experience was that the corn and hay ration, if the hay was of good quality, was quite sufficient, provided the horses were not too old and had reasonably good teeth. Horses with irregular dentition seemed to get into great trouble if they were over, say, eleven or twelve years old. district in question the only horses which now looked really fat were those of the District Council, and he put was to be a rise of 2s. 9d. per ton as from the 31st January, 5s. 6d. per ton as from February 28th, 8s. 3d. as from March 31st, and after that a rise of 11s. The prospect of these increases would naturally have a tendency to

He, like Mr. Perryman, had experienced a good deal of bowel trouble among horses lately, and also of horses going down and having eventually to be killed. In many cases they had got into such a low state that even when given better food they were quite unable to assimilate it.

As far as his investigations had gone, most of the trouble with the little men came from the fodder merchant. The stuff sent out was often simply putrid, and stank abominably. He had seen loads of hay from the market which were nothing better than manure. For the lighter class of horses he thought the corn chandler ought to be forbidden to put into the chaff the 20 per cent. of straw, and to be compelled to supply a

better quality of hay.

Mr. W. S. King said he had not seen so many cases of colic as other speakers, but the number of horses which had gone down and been unable to rise again was certainly greater than he had hitherto known. might have been due in some cases to debility arising from defective feeding, but in many instances he had traced the cause to exhaustion due to the class of men used to drive these horses. Irregularity of feeding, due to want of transport, gave rise to most of the trouble he had experienced: where regular feeding was possible he had encountered very little difficulty. From experihe had encountered very little difficulty. From experiments he had made in weighing horses, he considered that the horse food ration as laid down was quite sufficient. The difficulty in some instances seemed to be that from motives of economy many small owners gave much less than the stated ration, and that naturally

Mr. J. W. McIntosh said he was in full sympathy with the spirit of the resolution, though his own firm had not experienced the difficulties spoken of. About three months ago they had had some temporary anxiety with regard to their supplies, but the trouble had been soon overcome and there had been no recurrence of it. There was no complaint against the quality or the quantity of the grain ration. The hay mixture was certainly not of the best, and supplies were somewhat irregular, but on the whole so far as his experience went, he would describe it as satisfactory war average. They could not, of course, expect in these times to get the very best; that was the rightful privilege of the Army. The standard of fitness and general condition of his firm's stud was being maintained. He had looked up their sick-horse records, and was glad to say that the mortality of the horses from colic and other gastric trouble had not increased. In criticising transport methods, it must in fairness be borne in mind that it was impossible to exaggerate the difficulties experienced by railway executives at the present time, and that difficulty was likely to become more acute during the spring. However, if, as was apparently the case, bad hay could be brought to London, it ought to be just as easy to transport equal quantities of good hay. While, as he had said, fully agreeing with the spirit of the resolution, he was afraid that unless they were able to produce data to support their arguments with regard to mortality, and to the bad quality of hay, it was useless to expect that the resolution itself, or any steps arising out of it, would produce any tangible result. Though his own firm, as already stated, had not met with the difficulties complained of by other speakers, enquiries he had made had revealed the fact that, particularly in the east and south-east of London—he had no experience of any other part—many carmen had had serious trouble and loss amongst their horses from the defects to which Mr. Perryman had referred, and as a veterinary surgeon he was anxious to see a remedy for this state of things by the introduction of a better quality of hay and a more regular supply. The prevalence of colic might be partly less allowance than had formerly been customary.

one; it takes us over a month now to fill the fat tub due to the fact that a great many horse owners had been compelled to reduce the grain ration on account of its cost, even though the chaff ration had not been reduced, but rather increased. It was well known that a badly-balanced food, especially where the hay was of inferior quality, was one of the most prolific causes of intestinal

trouble.

Mr. REEKIE said that he had listened with much pleasure to Mr. Jones' paper. In the stud for which he (Mr. Reekie) was responsible he was not allowed to use any oats at all, but only substitutes, such as bran, brewers' dried grains, pea-husks, oilcake, and so forth. These had yielded fairly good results and the horses had done a fair amount of work on them, though they were not allowed to travel such long journeys as formerly. He had seen very little illness in his own stud during the present year; in fact it had been as good a year in that respect as any he had ever known. A great many of the evils complained of were doubtless traceable to bad hay, the result of the wet weather at the hay harvest. The war had shown that it was possible to feed horses and keep them in good condition, without any oats at all. Oilcake appeared to be quite a tolerably good substitute for oats, though the horses undoubtedly lost a certain amount of stamina and courage. Hacks also did very well on the same food, and were keeping their condition satisfactorily. At first they had been inclined to fall off, and their coats looked rather rough, but about 3 lb of oilcake every night appeared to have put them all right.

He quite agreed with Mr. Jones that some sort of a resolution ought to be sent to the Horse Food Controller, but he was inclined to think, with Mr. McIntosh, judging from his own experience as a delegate to the Horse Controller, that they would get very little sympathy unless the resolution was supported by adequate data.

Mr. S. H. Slocock strongly supported the resolution, and hoped that when forwarded to the proper quarter it would be productive of good. It seemed to be agreed that the ration was sufficient provided good hay could be obtained. There were, however, several reasons for the difficulty in obtaining this. One very obvious reason, of course, was that the military authorities had the first call. Another reason was that the weather at this time of year is not favourable for the moving of hay, and it frequently became damp in transit from the field to the railway station. With regard to hay not being sheeted, his own experience was that when the hay got wet in its progress from the field to the station, much more harm was done by sheeting it than by leaving it open, though he quite agreed that considerable injury must accrue from its remaining on rail for as long

as fourteen days, as was not infrequent now. He thought the farmer was often blamed when the real fault rested on the large hay dealer. The provision that hay bought in the rick must be moved within 30 days of the date of licence was a move in the right direction, because these large hay dealers were strongly financed men, they were buyers for big companies, and could easily hang hay up for six months. Another reason for the inferior quality of hay was that this season's hay had not been of the first quality, owing to the wet weather prevailing during hay-time and the scarcity of labour. He agreed with other speakers as to the sufficiency of horse ration, and was able to confirm Mr. King's statement regarding the great tendency among small owners to reduce the allowance below the prescribed amount. Of course, a horse working on half his allowance of corn, getting bad hay, doing a day and a half's work in a day, and being driven by a boy or a careless old man, was not likely to maintain his condition.

But the tendency before the war was rather to overfeed than underfeed horses, and it had been found that better work could be got out of horses by giving them a

Mr. CHAMBERLAIN agreed with Mr. Perryman that the smaller owners were those most affected by the troubles which had been mentioned. In the case of many small stables which he knew, he had never seen such rubbish in his life as was now being purchased under the name of chaff. In pre-war days the giving of such stuff to a horse as food would have almost furnished justification for action by the R.S.P.C.A. Personally, he was sick of being called up at all sorts of ungodly hours to go some small greengrocer or person of that kind who had his horse down. One goes, as a veterinary surgeon, but in many of these cases it is really impossible to make any useful suggestion. He supported the view that there was plenty of hay in the country, but that a large amount was being held up with a view to a rise in price, although no doubt the principal trouble was due to shortage of labour and difficulties of transport. A minor difficulty which had come to his notice was a shortage of tarpaulin and of ropes, particularly the former. Great quantities of these articles had been commandeered at the beginning of the war, and stocks had not been replenished. In this connection he thought some of the railway companies were somewhat arbitrary. A firm of forage merchants recently had several trucks of good hay ready loaded at a Hampshire station, but the railway company had not the necessary tarpaulins and ropes available, and would not allow the firm to use their own materials, and so the whole consignment was held up.

Mr. H. D. Jones said that it was possible the rises in price mentioned by Mr. Perryman might have the effect of somewhat improving supplies; at any rate there had been no improvement up to that morning, and he thought there was little doubt that many people were holding up hay. No doubt Mr. Thompson's horses were doing well. Of course, the railways were getting better hay than other people; they had their own trucks, they could easily bring up their own hay if they ran short, and they were Government controlled. In addition, they had their own carmen, they knew just where their horses went to, just what loads they could put on them, and, if they wanted an extra supply of horses all they had to do was to ask for them, and rest those which had been worked too hard. Under those circumstances it was no wonder that Mr. Thompson's horses looked well. With regard to the question of the 20 per cent. of straw, he would like to ask Mr. Thompson whether the stud under his supervision were having this amount of straw.

Mr. Thompson said that when they could get oat straw they did, otherwise not.

Mr. Jones, continuing, said he would look the Order up and see whether the provision as to 20 per cent. of straw was absolutely compulsory or not, and if it was not he should try and discontinue giving straw to the animals under his supervision. They were all agreed, with Mr. Foreman, he thought, as to the sufficiency of the ration provided the food given was of good quality. He thought it was a very good thing that hay bought in the rick was to be moved within 30 days, as mentioned by Mr. Irving.
Mr. Irving disagreed. A great many men would not

be able to move it within the prescribed period, and would be unable to get a fresh permit. There was a tremendous shortage of balers in the country. He had lately been doing his own transport, otherwise he could

not have got hay.

Mr. Jones, resuming, said Mr. McIntosh was very lucky to have had no increase in mortality, and he was very pleased to hear it. He had better control of his horses than most owners, and that made a big difference. With regard to Mr. Slocock's remarks about sheeting damp hay, he was not prepared to say that he would

sidered that dry hay should certainly be sheeted when

put on the trucks.

The President, in summarising the discussion, said it was apparent from the speeches they had heard that there was no complaint whatever as to the quantity of food allowed by the Horse Food Controller. Nor, apparently, was there any complaint as to the quantity of food available at the source. The chief complaints appeared to be with regard to the quantity brought to town, and its quality. Again, the discussion seemed to emphasise the fact that the larger stud owners were not hurt in the same way as the smaller ones. No doubt they received preference in some respects, on account of the size of the contracts they were able to make, and in addition to that a number of the larger firms did their own transport. The discussion had shown that to be the case with regard to at any rate two members of the Society who had charge of large studs. In one instance, where they had entire control of transport, and the horses had been able to get the allowance laid down by the Controller, no ill effects has been observed. In the other case, where also they had been able to obtain the full quantities, there had likewise been no ill effects; in fact, it had been stated that the health bill had actually improved. But that did not apply when one came to consider the case of the smaller horse owners; and the rest of the discussion had gone to show pretty clearly that in those cases where small owners had had to rely on dealers for their materials, and particularly in those instances where they had had to purchase chaff—which, as they knew, was so frequently made up of indifferent hay, and which in addition must at the present time contain 20 per cent. of straw—they were the people who contain 20 per cent. of straw—they were the people who had had to suffer. Another cause, apparently, of the deterioration of what was originally hay of fairly good quality had been the delay in transit. There had been several instances recorded of hay having been loaded and left in sidings for weeks. Well, it did not matter how good hay might be in the rick, if it was left exposed to the weether for that leath of time it was the rick to the weether for that leath of time it was the rick. to the weather for that length of time it must depreciate in quality fairly rapidly, quite apart from the question of sheeting. Consequently, if they wished to bring about any improvement in the present state of affairs, their course appeared to be to get some effort set on foot to improve the transport of material into London. The resolution suggested by Mr. Jones had been aptly summarised by that gentleman himself as being aimed at the present "insufficient and defective quality of food, particularly hay," and he thought that if they could approach Capt. Attenborough, or whoever might be the proper authority on that question, to see if he could by any means improve the transport, that would have the desired effect to a very great extent. He believed at the present time hay was not regarded as a food for purposes of transport; it was not rationed, and therefore did not receive priority. If they could get it placed on the list, so that it would receive priority, then it would

be transported more quickly.

Mr. IRVING said there was one point with regard to which the Chairman's admirable summary was not quite correct. There was undoubtedly a great shortage of hay in the country, owing to the great quantities of that commodity which had been sent to France.

The President pointed out that all he had said was that there had been no complaint as to quantity. It was quite probable there was some shortage, but as far as he had gathered from the discussion there was no actual complaint on that point.

Mr. PERRYMAN did not agree with Mr. Irving. From all the information at his disposal, he was of opinion that there was plenty of hay in this country, and that made the present starvation, or partial starvation, the

more aggravating.

The PRESIDENT, continuing, said that he thought that sheet hay which was absolutely soaking wet, but he con- at any rate a case had been made out for accepting the

resolution as proposed, and, if that were accepted, the of view of the veterinary profession. A few years ago question would then arise as to what they should do

Mr. H. D. Jones then formally moved the resolution, as follows:—"That we, Veterinary Surgeons of London, Fellows of the Central Veterinary Society, view with concern the increasing mortality and depreciation of horse-power of the various London studs, due directly to the insufficiency and defective quality of food, chiefly hay, and while acknowledging the great services which the Horse Food Controller has performed by arranging supplies in emergencies in conjunction with the Army Forage Committee, we urgently desire him to consider what immediate steps can be taken to ensure an adequate supply of proper hay being sent to the metro-

polis; we recommend that all such supplies be treated as food material for purposes of transport." Mr. Perryman seconded the resolution, which was then put to the meeting and carried unanimously. It was further decided that copies of the resolution should be sent to the Hay Controller and to the Horse Food

Controller. On the motion of Mr. Stroud, seconded by Mr. McIntosh, it was unanimously resolved that in sending copies of the resolution to the Controllers, a copy of the Chairman's synopsis of the discussion should be appended thereto, and that copies of the resolution and synopsis should also be supplied to the lay Press.

Mr. Reekie proposed, and Mr. McIntosh seconded, that in forwarding the resolution to the Hay Controller he be asked to receive a deputation from the Society if he deemed it necessary. This resolution was also carried

unanimously.

It was further moved by Mr. McIntosh, seconded by Mr. Forman, and carried unanimously, that such deputation, if formed, should consist of the President, Mr.

Jones, Mr. Perryman, and Mr. Irving.

A hearty vote of thanks was accorded to Mr. H. D. Jones, on the motion of Mr. McIntosh, seconded by Mr. Reekie; and a further vote of thanks to the President for his conduct in the chair was moved by Mr. Reekie, seconded by Mr. Chamberlain, and carried by acclama-

The meeting then terminated.

HUGH A. MACCORMACK, Hon. Sec.

Nominations for Election to Council R.C.V.S.

Abson, J., Major A.V.C., D.S.O., Banham, G. A. Cambridge. Sheffield. Benkinsop, L. J.. Maj. Gen. A.v.s., D.s.o.
Brittlebank, J. W., Major A.v.c., Mano
Coleman, J. C., Swindon.
Glager, S. H.,
Howard P. J.

Glagow. Manchester. Howard, P. J., Ennis. Mason, A. W., Lt.-Col. A.V.C., Leeds. Packman, W., Bury.

Prosecution in Ireland by R.C.V.S.

THE BALBRIGGAN APPEAL.

Before the Rt. Hon. the Recorder of Dublin on Friday, at Green Street Courthouse, the appeal came on of Edmund B. Burke, Balbriggan, against the decision of the Balbriggan magistrates fining him £10 for practising and describing himself as a veterinary surgeon. The prosecution was brought by Mr. Wm. Boyd Gardner, V.S., Drogheda, and the Royal College of Veterinary Surgeons. Mr. T. W. Browne, B.L. (instructed by Mr. C. Friery), for the appellant; and Mr. Wylie, K.C. (instructed by Mr. P. Tallan) for the respondents.

Mr. Wylie explained that the case had been brought against Burke for practising as a veterinary surgeon and

the appellant came to live in Balbriggan. At first he confined himself to acting as a quack doctor, but afterwards called himself a veterinary surgeon and used the title V.S. He examined horses for insurance companies, and in a great number of instances signed certificates "M.R.C.V.S." The prosecution was brought about by his signing a cheque with the letters V.S. after his name. He had also informed people whose horses and cattle he attended that he was a vet. In almost every instance the cattle died, and it was a very serious matter. The magistrates imposed a fine of £10, but the veterinary College were concerned more about the principle than the penalty. They wanted to show that this man had no right to practise as a V.S.

The Recorder agreed that it was a very serious case. A well educated V.S. was one of the greatest advantages to a county that could possibly be conceived. Browne)—Have you any defence?

Mr. Browne said that with regard to the letters V.S. on the cheque, that was put on by the defendant to

secure his cheques in case they were stolen.

The Recorder—Why didn't he put V.C. after his

name? (Laughter).

Mr. Browne said his client had been selling books on veterinary science and had present in court practically the whole of the countryside to show that he was most adept in dealing with the cattle he attended.

The Recorder said the local cow doctor was often

better than any vet.

Mr. Browne admitted that his client had signed the cheque V.S. It was clearly a breach of the Statute. He was prepared to stop it for the future.

Mr. Wylie said that on getting an undertaking that Burke would cease using the letters V.S. and practising as a vet. he was willing to agree to a nominal penalty.

The Recorder-Wouldn't it be better to affirm the conviction and stay the issue while the defendant observed the undertaking?

Mr. Browne said he would call one witness, Mr. McDonnell, to prove cures resulting from defendant's treatment.

Mr. Wylie said he would then be obliged to call wit-

nesses to prove the reverse.

The Recorder said that Balbriggan was within easy distance of Dublin, Drogheda, and Dundalk, where qualified vets. resided. There was a College in Dublin and it was a great success he was very glad to say. It conferred very large benefits on the farmers of the country, and in these circumstances, when the real article was to be got, the occupation of the handyman about cattle ought to be gone. He had known of instances in the West of Ireland where people had to drive 40 miles for a vet. but circumstances like that did not arise here, and it was not reasonable for those uneducated or unqualified men to be practising as vets. He would affirm the conviction of the magistrates.

Mr. Browne asked that the fine be reduced.

Mr. Wylie—He will not be asked to pay a penny if he behaves himself.

Mr. Tallan said what his clients wanted was to stop this practice or malpractice as they termed it.

The Recorder-Irregular practice I will call it. would, he said, allow the fine to stand, but would not issue the warrant for the fine unless the respondents had to come in again to complain of the appellant's conduct

Mr. Wylie said they would not ask for the penalty if the appellant carried out his undertaking given in open court that he would not again hold himself out as a

veterinary surgeon or practise as such.

The Recorder then made his order affirming the con-Mr. Wylie explained that the case had been brought against Burke for practising as a veterinary surgeon and using the description of V.S., he not being qualified so to do. It was rather an important case from the p n

The late Mr. J. Alex, Todd.

A note in The North British Agriculturist says :-

"A little over a year ago Mr. Todd acquired the practice in Campbeltown and district of the late Mr. Alex. M. Macdougall, M.R.C.V.S. As a capable veterinary surgeon his services were in much request in the Campbeltown district. He was forty-six years of age, and is survived by his wife and three daughters."

THE VETERINARY SURGEON'S SHOP.

The Peterborough Town Council has raised no objection to Mr. Harry Westgate, veterinary surgeon, opening a shop for the sale of horse flesh for human consumption.—The Observer.

To the Editor of "The Veterinary Record."

Sir,-I enclose you cutting from The Observer of today's date. Surely this cannot be true—if it is, what about our professional status? If not, I call it an insult to the profession.—You's faithfully,

L. C. WELFARE.

THE FINANCES OF OUR COLLEGE.

To the Editor of "The Veterinary Record"

Sir,-Reading the letter of M.R.C.V.S., in your last issue (26th Jan.), I think he has taken up a subject which should be pursued till something definite is done about it. I, too, think that if the matter of subscriptions was brought, in a business manner, personally home to members of the profession, they would put all hands to the pumps to save Too many of our profession are quite content to go on making a living on the strength of their diploma from

our College without thinking what would be the result if that body were to collapse. Without the sinews of war nothing can go on, and it is the bounden duty of every M.R.C.V.S. to "do his bit" towards keeping up the dignity of the body corporate.

I have watched the subscription lists of last year closely, and have been surprised and ashamed to find the names of so many men missing who ought to subscribe and who are well able to do so—whilst, on the other hand, many have subscribed whose circumstances are none of the best, but who evidently can see things as they are in a proper, decent light. As to the method to be pursued in attaining the desired end of getting good subscription lists regularly, the idea of sending circulars to members might be tried in the first place, and if that was not successful, why not (as in the amended Bye-law No. 56 re "Disgraceful conduct") have our Secretary keep a list of those who by silence signify a desire to see the R.C.V.S. go to the dogs, for reference.

I know plenty of men who will let a thing of this kind

slide so long as they have plenty of company and no one takes particular notice of them personally, but who, the moment they realise that their names are included in a list, the heading of which is not particularly complimentary, would "tak' a thocht an' mend." Amongst non-subscribers I may say that I have particularly missed the names of some men formerly civilians, now in uniform—men who have themselves told me that they now had the best job ever they had, and could do better now than when rubbing along in private practice or in a menicipal appointmentand these same men forget all about the R.C.V.S. whose "ticket" they were once so anxious to obtain, and without which they could not be in their present position.

Get up, and get over the top! and don't let it come to the

general public getting the chance to apply drill-instructor's language respecting members of a profession who refuse to mark time.-Yours, etc.,

"SIN EMBARGO."

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

					Anthrax and Mouth Glanders. † Disease.			Parasitic Mange. ‡		Swine Fever.				
Pe				Out- breaks	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.		-	*	1	_									
11	Veek en	ded Jan	. 26	9	10			1	1	149	281	26	15	5
Corresponding week in	1	1917 1916 1915		9 12 16	10 12 18			2 1	2	88 98	176 265	40 18 12	36 81 74	17 313 394
Total for 4 weeks	s, 1918		,	30	33			2	3	587	1172	95	71	24
Corresponding period in	{	1917 1916 1915		56 56 74	50 58 82			3 4 2	3 13 4	333 389	708 1085	141 87 64	159 314 334	63 1044 1566

‡ The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive (a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :- Landon 1 Board of Agriculture and Fisheries, Jan. 29, 1918. Excluding outbreaks in army horses.

IRELAND. Week ended	d Jan. 19				 	 Outbreaks 3	17	1	1
Corresponding Week in	1917 1916 1915			:::	 ::	 1 1	13 17 16	3 2 5	7 23
Total for 3 weeks, 1918		·			 	 11	43	1	1
Corresponding period in -	1917 1916 1915	1 1	1 5 		 	 2 5 2	54 44 40	9 11 10	48 29 52

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 21, 1918. Note. -The figures for the Current Year are approximate only. * As diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1544.

FEBRUARY 9, 1918.

Vol. XXX.

MORPHIA IN CANINE PRACTICE.

Ever since Hobday popularised the hypodermic use of morphia in canine surgery a few years ago, the drug has been one of the chief every-day resources of the clinician. But it is not without disadvantages. One-its occasional production of prolonged excitement, perhaps without any subsequent narcosis—has been known for a long time. This alone is a rather serious draw-back; for, though such cases are comparatively rare, it is impossible to foresee their occurrence, and they may prove very awkward and annoying. cases reported to-day by Mr. G. Yates suggest a more serious danger which is not yet generally recognised. If he is right in considering the effects seen in his cases to be directly attributable to the use of morphia, the drug must be capable, even in a very moderate narcotic dose, of sometimes inducing cerebral lesions which may possibly be permanent. The final result of his present case would be more than interesting; and so would the experience of other practitioners. English clinicians collectively now possess such a great experience of the narcosis of dogs by morphia that there ought to be no difficulty in determining whether such cases are to be reckoned with as a possible result of the measure.

" Monstrosities."

This week we publish a short report and photograph of a monstrosity, which is typical of nearly all of the many we have published in the last thirty years. Such cases would make valuable teratological records, if they were carefully dissected and reported in the fullest detail by men who had specially studied anatomy and teratology. Otherwise, it is difficult to see their utility to anyone. The clinician knows that monstrosities occur, and should always remember the possibility that he is dealing with one when confronted with a puzzling Any obstetrical manual gives suffipresentation. cient information of the various forms they assume to afford him the necessary guidance; the rest, if the case is difficult, depends upon his individual skill and resourcefulness. There are two points of view from which monstrosities may be re-One is purely obstetrical; and only concerns subh gross anatomical abnormalities as may interfere with delivery. Enough is already known regarding that, and perhaps more than enough has been published. The other is teratological—the minute dissection and description of monstrosities, which is indispensable to the tera- trouble was experienced with the deep sutures. tologist, though not directly helpful to the clinician. Very little of this latter work has been done in time, chiefly owing to the necessarily very restricted England; but special study is necessary to perdict which was given. form it.

SURGICAL CASES FROM A VETERINARY HOSPITAL.

VENTRAL HERNIA.

Case I. Subject: A nine-year-old brown gelding. Hospital No. II. 312.

This horse was admitted to hospital on the 4th Oct., 1917, suffering from a large ventral hernia on the left side. The rupture extended from just under and inside the flank, diagonally across to the prepuce, and then parallel with the prepuce almost reaching the scrotum, in all measuring 11 inches

The radical operation was decided on, and the horse was prepared by being given six drachms of aloes, soft food only for two days, and then no food at all for forty-eight hours. The animal was then cast and chloroformed. The area of the operation was shaved, and the skin thoroughly cleansed and disinfected.

An incision was made along the whole length of the hernial sac, and a large fold of intestine was exposed. Extensive adhesions to the rim of the hernia were found. These were broken down with the fingers, and the loop of bowel returned to the abdomen. Deep sutures were then inserted, one layer through the peritoneum and obliquus internus muscle, a second deep layer through the other abdominal muscles, and finally a layer in the skin. Sterilised silk sutures were used throughout, and forty interrupted sutures in all were inserted.

The muscles in this case were very bruised, being an almost black colour, and great doubt was felt as to their ability to hold the sutures well, but results were much better than expected.

The horse was then allowed to rise. A thick pad of tow was placed over the operation wound. a bandage applied over that, and a strong roller bandage of jaconet was placed over all.

The patient was put into slings, and kept on a very limited diet of linseed tea and gruel for two days. After that time small quantities of well boiled gruel and boiled oats and linseed were given, the amount being gradually increased.

The after history was almost uneventful. temperature was never above 103 F., except one day, the fifth after the operation, when it suddenly rose to 105 F. for a few hours. The fever quickly declined, and the patient made steady and uninterrupted progress.

The discharge was not at all excessive, and no

Naturally, the horse lost condition rapidly for a

At the present time, two months after the operation, the wound is perfectly healed. Condition is rapidly improving, and the horse should be fit for general service in about fourteen days.

Subject: A six-year-old bay mare. Case II.

Hospital No. B. 1033.

The mare was admitted with an injury to the jaw, and a slight swelling was also noticed on the right flank just behind the last rib. The swelling was very small, and although a hernia was diagnosed, it was thought well to leave it alone, and this appeared to be justified by the total disappearance of the swelling.

The mare was passed for Remounts, but just before issue the swelling suddenly reappeared and became larger. Operation was decided on, and procedure as to preparation, etc., was as previously

described (Case I).

The rupture through the abdominal wall in this case measured about seven inches, and stretched from the edge of the flank upwards, vertically,

behind the last rib.

On opening the hernial sac, a piece of mesentery, and a small loop of small intestines were found. One slight adhesion had taken place. This was broken down and the bowel returned. A piece of mesentery was snipped off with scissors, and the stump pushed into the abdomen. One row of deep sutures was inserted through all the muscular coats and peritoneum, and one layer of superficial sutures was put into the skin.

In this case a very excellent support and pressure could be exercised by bandage and jaconet roller, and this was carefully placed over the seat of opera-

tion after the mare was on her feet again.

After-history. No fever resulted, and the mare made excellent progress. The wound healed, all except one small point from which a persistent

discharge came.

As this discharge did not cease sepsis in a deep suture was suspected, and after two months the mare was cast again, and the wound opened up. The hernia had entirely disappeared, but two silk sutures of the deep row were found, and no doubt these were the cause of the discharge. The sutures were cut out, and the wound is now quite healed. and the mare is fit for duty.

This mare never lost condition at all, she remained

quite fresh and fit all the time.

ABNORMAL GROWTH ON JAW.

Case III. Subject: A six-year-old bay mare

Hospital No.: H. 2131.

This mare was admitted to hospital on the 4th Oct., 1917, with a growth about as large as a man's fist on the left side of the face, situated immediately over the course of the submaxillary artery where it turns round the ramus of the lower jaw. On closer examination, a hard cord, as thick as the finger, was found to run from the lower edge of the growth under and alongside the ramus, and to extend backward to the parotid gland. One could trace this lopenings were found to be connected.

cord in the substance of the gland almost to the root of the ear.

The growth itself was very firm and adherent, and quite hard, except that at one spot a slight pitting could be made with the finger.

The mare was cast and chloroformed on the 9th Oct, 1917, the seat of operation shaved and

prepared in the usual manner.

Before an incision was made, a small trocar and cannula was pushed into the soft part of the tumour, as it was thought possible that the cord already described might be a large varicose sub-maxillary vein, so this exploration was carried out to see if the tumour contained blood. Directly the trocar was withdrawn a clear liquid escaped from the cannula, and this was found to be saliva. The cord then immediately softened, and finally disappeared.

The growth was dissected out. It was most

firmly attached to the muscles, and had to be dissected with the knife entirely, as no part could be broken away with the fingers. It reached down to the submaxillary artery, but did not involve the arterial coat, so that excision was complete without

severing that artery.

The tumour was found to consist of very hard fibrous tissue, in which were numerous ramifications of the salivary duct, and in the centre was a small pocket in which the saliva collected. In removing the tumour, the duct connecting it to the parotid salivary gland was necessarily cut through, and it appeared impossible to avoid a salivary fistula-at least for a time. This duct was therefore brought to the edge of the wound and sutured to the skin, so as to allow any saliva to escape without affecting the wound.

The operation wound healed well, but, as expected, a small salivary fistula has remained, but this will not affect the animal's usefulness. amount of saliva coming down the duct is very small indeed, not amounting to a tea-spoonful in a

Ружміа.

Case IV. Subject: An eight-year-old bay mare Hospital No.: K. 1881.

This mare was admitted on the 15th Nov., 1917, with a shell wound on top of the lumbar region on the right side, and from this wound came a prolific

discharge with a most offensive odour.

The mare was cast and chloroformed, and the wound examined. No piece of shell was found, but a very extensive pus-burrowing was discovered. The wound ran backwards for three or four inches, but had extended forward chiefly. The burrow was followed up, and it was found necessary to make six incisions for drainage: one below the original injury, one over the twelfth rib and in a line with the original injury; one just behind the scapula in a line with the second incision, another half way down the ribs, another just above the spur vein, and one right under the sternum.

The panniculus carnosus was extensively gangrenous, and had to be almost entirely removed over the area described. An enormous quantity of pus was liberated, and all the above described

1 0%.

1 dr.

 $\frac{1}{2}$ gr.

10 oz.

The mare was very feeble, and almost in a state of collapse from absorption of toxins.

The cavities were cleared out and packed with wool soaked in a solution of 1:100 Potass permang. By means of these incisions an excellent drainage was secured, and an immediate improvement in the patient's condition was noted.

After-treatment consisted in washing out the wounds with a mild solution of Cresol, to remove the discharge, and then to flush freely with a 5% solution of Sodium chloride. The wounds were kept plugged with carbolised tow.

The mare improved rapidly in health and condition, and the wounds soon became quite clean with healthy granulations. At the present time the wounds are healing, and a complete recovery can be confidently looked for.

Internally the following was given daily for ten

Tinct. ferri perchlor.

Strychnin hydrochlor.

Quinin. sulph.

Aquae

RALPH BENNETT, F.R.C.V.S., Capt. A.V.C. 13th Dec., 1917.



To illustrate case No. 4.

MORPHINE SULPH. IN DOG PRACTICE— TWO CURIOUS CASES.

Dachshund dog, the subject of operation for discharging sinus over the left orbital region, was, prior to operation, given \(\frac{3}{4}\) gr. Morphine sulphate, on the 21st ult. He remains in the same lethargic condition to this date—the 29th ult.; with difficulty is placed upon his feet, and remains in this position but a few moments only; his legs cross, there is marked incoordination, and he falls to the ground. After several attempts he maintains himself erect for a slightly longer period, moves slowly in a circle, always to the right side, seeks the nearest object—such as a chair or table leg to lean against, and just occasionally will rest his head, the frontal region against either of these objects, simulating an animal suffering from meningitis. Power of prehension feeble; manifests difficulty in picking up small pieces of meat, but can negotiate larger pieces more readily; drinks with similar

Treatment, so far, has consisted of the administration of 71 minims of Easton's Syrup night and | the syringe previously sterilised; the hair clipped

morning after food—without any appreciable bene-

fit, and the prognosis looks gloomy.

The dose of Morphine sulphate I do not consider excessive, as he is a strong, moderately healthy subject. Nor was the slight operation sufficient to produce these symptoms, they being entirely, in my opinion, directly attributable to the drug.

A similar case occurred in my infirmary some time since, but the effects were much slighter, and the animal, an Irish terrier, regained its full power of locomotion in four days. The dose administered in this case being the same.

As the medicinal treatment so far appears futile, I am about to give high frequency electrical treatment along the spine. From these two instances it would appear that some dogs have a special idiosyncrasy to Morphia. Should be pleased to hear the experience of others. Have just heard from another practitioner that he has had similar trouble, but in cases in which preliminary excitement followed the administration of Morphia. This, however, was absent in this particular instance. The drug was administered in both cases hypodermically,

over the site of puncture, and Tincture of iodine

applied.

Since penning these lines, the morning of the 31st finds a very slight improvement. Still turning circles to the right, but in addition showing string-halt movement of both hind legs, a perfect goose-step action.

RATS?

Called in this morning to examine a pony said to be suffering from a humor or breaking out at the heels at the junction of the hoof and skin. Three feet were affected.

The groom confided to me his opinion that rats were the cause, the stables being infested with them, evidence of which was not far to seek.

The pony was quite well the day before, and was the only occupant of the stable. Kicking and struggling was heard during the night, both by the groom in his cottage and the occupiers of the house. No notice at the time was taken of this, and this morning on entering the stable the pony was found in the condition described.

Upon close inspection of one of the fore feet, the hoof at the heel showed a series of parallel grooves, exactly like what might be produced by the chiselling action of rats incisors, whilst the heels appeared scarified, though not particularly tender to manipulation.

Harrow.

GEORGE YATES, F.R.C.V.S.

THE SCIENTIFIC INTERPRETATION OF THE PATHO-CLINICAL ASPECT OF EQUINE TETANUS WITH A BRIEF RÉSUMÉ OF MODERN TREATMENT.

By WILLIAM SCOTT, F.R.C.V.S., F.R.M.S., Bridgwater.

For some months past the pages of The Veterinary Record have contained a series of articles on Equine Tetanus, thus suggesting how much this disease exercises the minds of practitioners. If these may be taken as an index of the general principles of treatment adopted in daily practice I venture to think, in the light of our present-day knowledge, that many valuable adjuncts are left untapped in our efforts to combat this grave disease.

The attitude of masterly inactivity as practised by our forefathers does not warrant in these latter days our following in their footsteps. Of course I shall be told that mild cases recover with little or no assistance on our part; sub-acute cases sometimes; acute cases seldom or never; but who is there among us can tell, in the early stages (and this is the phase in which the surgeon can be of most assistance to his patient) whether the disease, speaking broadly, is going to run a mild or a severe course? These conditions depend upon the virulence of the bacteria and the potency of their toxins on the one hand, and the natural and improvised protective forces of the patient on the other, and as we possess no means of standardising these equations with exactitude, surely the wisest course for us to follow is to start strengthening and husbanding our patient's resources from the outset by every means in our power.

PATHO-CLINICAL ASPECT.

To obtain a clear perspective of this disease with its therapeutical limitations a study of the pathogenesis of tetanus is of the first importance.

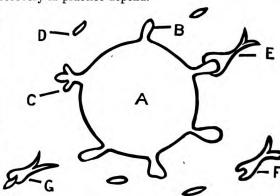
Tetanus is a localised infection accompanied by

a generalised toxæmia.

In from 24 to 36 hours after a wound has become infected with tetanus bacilli, toxin forms, which travels along the axis cylinder of the motor nerves, being largely absorbed by the end plates of those nerves, or, according to some authorities, by the nerve lymphatics. It is probable that both channels may be the means of transmission. The toxin reaches the motor spinal ganglia from the inoculated side, and affects the ganglia on the opposite side, producing the well-recognised clinical data of tonic muscular spasm. No sooner do the bacilli invade the wound than we may be sure phagocytosis both by the leucocytes and local tissue cells takes places (positive chemotaxis), but unfortunately (and this point carries with it considerable clinical potentialities) owing to the potency of the bacterial toxin, etc., a repellant action upon phagocytosis also takes place (negative chemotoxis) which acts as a serious menace to recovery.

One must also accept it as a fact, that owing to the toxin possessing antigenetic powers, nature, very early in the infectious stage, begins to elaborate her own antitoxin. It is largely upon the joint successful efforts of those two primarily protective forces that many of the aided and unaided cases of

recovery in practice depend.



THE THEORY OF THE FORMATION OF ANTITOXIN SHOWING THE VARIOUS STAGES.

A. A cell molecule showing side chains. B. A side chain or receptor. C. Budding receptors about to be cast off. D. A cast-off free receptor—now an antitoxin. E. A toxin molecule in combination with a cell molecule receptor. F. A free toxin molecule. G. A toxin molecule in combination with antitoxin.

It is well known that the toxin possesses a great affinity for nerve cells, and on theoretical grounds the side chain theory (see diagram) gives one a fair conception of what is supposed to take place. Briefly, the cell molecule possesses side arms or receptors, the liberated toxin molecules unite with these, and if the latter is sufficiently potent to destroy the cell molecules and a large number of cells are so acted upon, symptoms of tetanus will become mani-

fest and in grave cases dissolution may follow. On the other hand, the cell may not die, but may continue to throw out from its molecules many receptors, the production of which may be so great and so rapid as to cause over-crowding and lead to detachment. These detached receptors are thrown into the body fluids and as free agents act as anti-toxins or antibodies, their object being to unite with and neutralise any free toxin with which they may come in contact. It will therefore be seen that free toxin acts as a cellular antitoxic stimulant by the production and over production of side chains or receptors. We must therefore look upon tetanic intoxication as an autovaccination, demonstrating clearly the three well-known phases in vaccine therapy, i.e., the negative phase, the positive phase, and the phase of increased resistance.

In those very acute cases where the charge of toxin appears to be excessive, and where the patient does not survive the negative phase, the common clinical symptoms cannot altogether be summed up as arising from a generalised toxemia. In my opinion one must look to some iodiosyncrasy in the pation, i.e., anaphylaxis, or something akin to it. In many of those fatal cases (not all) I have noticed what appears to be a marked diminution and even complete absence of phagocytosis and serous transfusion in the wound itself by the absence of pus and moisture, and in practice I have come to look on it as a clinical fact that my best recoveries are to be found in those cases where the wound is large and the discharge abundant from the outset, as against those showing small wounds or scratches covered by dry and firmly adherent scabs.

The situation of the wound also carries with it a clinical significance. The farther it is from the central axis (horizontal or perpendicular) and the less vascular the injured tissues, the graver the infection risks, and the less likely that nature will be able to combat them.

One possible exception must be taken to thisthat in the case where tetanus developes from docking, the toxin has direct access to the spinal cord. Yet here the surgeon has a great advantage, for by one stroke of the knife he gets rid of the fountain of infection. If this is done early good hope of recovery will most surely follow.

ACTION OF ANTI-TOXIN.

From the foregoing it will be seen that as soon as tetanus infection has taken place, nature begins to elaborate her own protective elements or antibodies, and if the charge of toxin is not sufficiently potent to cause molecular, cellular and systemic death, these elements gain in force as the disease cycle progresses, until a stage not only of immunity, but of hyper-immunity, is reached; such cases may be rightly called mild, and require little or no piloting on the part of the attendant.

On the other hand, where the bacteria and their products "run riot" where the defensive mechanism is, so to speak, thrown out of gear, and the antitoxic bodies are not forthcoming, we must assist nature to make good the deficiency. Antitetanic serum, if one may be allowed the use of an analogy, I to charge the nervous system with serum from the

acts towards tetanus toxin as an alkali acts on an acid—by neutralisation.

On theoretical grounds, therefore, so many units of antitetanic serum injected into a tetanic patient will neutralise a given number of free toxin units. This sounds very simple; why then has the serum as a curative agent fallen into such poor repute? In veterinary practice there are several reasons: I will allude to only one here; to the others later.

As we have seen, the toxin has a great affinity for nerve cell elements; therefore, given a reasonable chance, the union between a molecule of toxin and a cell molecule is presumably a fixed one, and we know of no agent capable of breaking down this union—not even serum. For the serum to carry any therapeutical value it must reach the channels where free toxin is to be found at the earliest possible moment. I have already said that the union of toxin and cellular molecules is presumably fixed, nevertheless, one is justified in thinking that there are various degrees of fixity, and in those instances where the union is a loose one an excess of antitoxic serum may exercise a detrimental effect on such toxin. For this, and for other reasons which we shall see later, very full doses of serum must be given at the outset.

Further important therapeutical results will follow from the local application of antitetanic serum to the wound and its injection into the adjacent soft structures; by facilitating phagocytosis, in creating a positive chemotaxis and the probable bacterio tropic virtue of the serum would also exercise a direct detrimental influence on the bacteria themselves.

Mode of administering Antitetanic Serum IN DOSAGE.

In the whole range of serum therapy there is none which demands a more reasoned and methodical consideration in the mode of administration To inject so many units than tetanus serum. under the skin and expect good results therefrom is nothing short of sheer folly and professional laxity, and in my opinion has done more to discredit antitetanic serum than anything else—the reason being not far to seek.

It has been conclusively proved that serum injected subcutaneously takes from 24 to 36 hours to become absorbed, which means, of course, that so many valuable hours are lost. As already pointed out, the toxin has a predilection for nerve cells, and as the antitoxin does not readily pass from the circulatory to the nervous system where the real storage of toxin has taken place, it is obvious that the administration of the serum through the circulatory or lymphatic channels can only carry with it a therapeutical value in the neutralisation of free toxin floating in the blood. The intravenous injection of serum charges the blood rapidly, and certainly carries more value with it than by the subcutaneous route.

Although serum does not readily pass from the circulatory to the nervous system it passes with great ease from the nervous to the circulatory; obviously, therefore, the clinician should endeavour outset by the following channels: intracranial, intraspinal, intraneural, and, to a losser degree, intramuscular.

Intracranial I consider largely impracticable in our animals, although frequently adopted in man. It is no easy matter to successfully trephine a horse's skull with the patient standing when one remembers the hypersensitive condition of an animal with tetanus; while casting materially aggravates the symptoms; and after several attempts I have discarded this method.

The intraspinal, or, more accurately speaking, intradural channel of injection has given me, so far, better results, but my cases up to date have been too few to dogmatise. I hope at a later date to

record some observations.

The intraneural carries considerable limitations. The situation of the wound has to be considered, the nerve to be injected must be superficial, and it must be sufficiently large to admit of the insertion of a needle and the absorption of a fair amount of serum. From 3 to 5 grains of cocaine is injected over the nerve in the vicinity of and above the wound. The nerve is then exposed, a fine needle plunged into its long axis, and the serum slowly forced in.

The intramuscular is the easiest of all the methods, but unfortunately it has least therapeutical value, inasmuch as the larger proportion of serum is taken up by the circulatory and lymphatic system as against the nervous system. The needle is plunged into the soft structures around the wound at various points, and needless to add under strict sterile precautions. For this purpose I use two parts of serum and one part Tinct. iodine—the latter helps to neutralise the toxin, stimulates effusion, increases cellular activity and consequently localised phagocytosis-all of which tend to retard the absorption of toxin. The operation may be repeated daily, but if the swelling is considerable the iodine should be discontinued.

Dosage: -500 units of serum is invariably recommended by the subcutaneous or intravascular channels; this I consider totally inadequate. I never give less than 5000 units every 12 hours for the first three days. By the intradural channel 500 units every 24 hours for the first five days. By the intraneural method a quarter to half those latter doses, depending upon the size of the nerve

itself.

GENERAL TREATMENT.

The patient should be placed, if possible, in a darkened and isolated box, the floor of which should importance; and a full dose of aloes with a hypodermic injection of eserin administered. All sedatives which tend to clog up the eliminative organs, such as opium and its derivatives, must be left severely alone. An electuary placed on the tongue; and suppositories administered per rectum com-The system should be charged with free iodine by should only be put out for stock which have been the intratracheal injection of Lugol's solution. The receiving salt for some time.

The dose of physic by unloading the bowels lowers blood pressure, stimulates the lacteals, and facilitates the elimination of toxin from the body fluids. The iodine has a direct influence on the free toxin, and

is a cellular and lymphatic stimulant.

Quietness is, of course, essential, and if the patient is excitable lightly plugging the ears with cotton wool deadens extraneous sounds. Where one is called in before complete trismus has taken place every effort should be made to retard the process, and I know of nothing better for this than giving the patient at intervals a whole mangold or swede to masticate. The act of prehending these roots stretches the jaw to the maximum. In addition nutrient slops should be allowed ad lib. Where the jaws are completely locked I find it very useful to pass a flexible vulcanite tube along the roof of the mouth to the fauces and inject liquid nutrients with the syringe. At first the patient usually resents this treatment, but soon shows evident enjoyment. Nutrient enemas are also indicated here.

Where a wound is detected it must be deeply curretted and all foreign material removed. As the bacillus is anærobic the laying open of punctured wounds is essential, and for the same reason all firmly adherent scabs must be removed. In some cases it is good practice to dissect out a large portion of the wound area, then pack with tampons soaked in antitetanic serum, alternated with crystals of permanganate of potash. These dressings should be repeated at intervals.

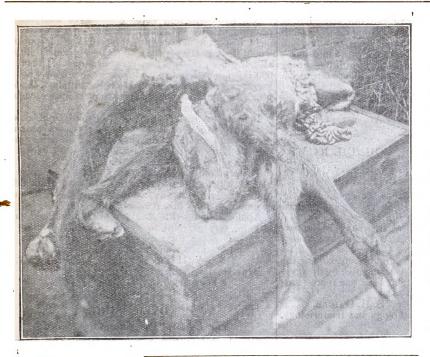
MORTALITY IN CATTLE CAUSED BY SALT.

By R. Paine, f.r.c.v.s., Govt. V.O., Kokstad.

Although the administration of salt is generallyand quite rightly, used for stock throughout the Union of South Africa, the fact that its administration may cause death justifies this note. It is recorded that 1 lb doses of common salt given in 4 qts of water to healthy yearlings in half an hour induced irritation, excitement, staggering, paralysed hind-quarters, and death.

Quite recently the writer's attention has been called to deaths which have occurred locally from the administration of salt, five head of cattle were killed on one farm, and other local farmers have had the same experience. In each case it was due to allowing stock to gain access to a salt solution in tubs, which stock had not been receiving salt for a considerable period. The solution was naturally a saturated solution of salt; and the animals took be bedded with sawdust, moss litter, sand, or short large draughts of it, so swallowing probably far For those animals which take kindly to more than 1 lb. They were noticed within a few slings, I look upon slinging from the outset of first minutes to run to the nearest sluit and to distend themselves with water. In many cases violent vomition occurred, so giving relief, whilst others remained in an excited condition, became paralysed, and died.

The practical conclusion is that salt should be given in limited quantities to stock unaccustomed posed of chloral hydrade and camphor are useful in to it, and then only in the dry state, particularly combating the spasms, and they leave no ill-effects. those running on sour veld. Salt as a solution



MONSTROSITY.

I enclose you a photo of a calf which I took from a cow a short time ago, and if you think it would be of any interest you may put it in The Veterinary Record.

It came out of a shorthorn cow, second calf, and she was exactly up to her time.

It had no neck, the head being fast to the breast, the tail was grown from centre of abdomen, and all the viscera were hanging out from its back. The cow did very well.

Aug. Bramall, M.R.C.V.S., Croston.

THE UNSATISFACTORY CONDITIONS OF SERVICE D.A.T.I., IRELAND.

36 Mount Charles, University Road, Belfast, 30th Jan., 1918.

To the Editor of "The Veterinary Record."

Dear Sir,-In your issue of the 12th January, containing a report of the quarterly meeting of the Council of the R.C.V.S., under the heading "Parliamentary and General Purposes Committee," it is reported that a communication was received from Mr. T. M'Guinness stating that the improvements in salary and status of the Veterinary Officers of the D.A.T.I., which had received the support of the Council, had now been granted and, arising out of that report, you refer to the matter in your editorial remarks, stating that the success is gratifying, etc. As the letter addressed by me to our respected President does not admit the construction placed upon it, and as the brief report is entirely misleading and may have a detrimental effect upon the Veterinary Staff in particular, and the whole profession in general, perhaps you will afford me the opportunity of placing the following facts before your readers.

About the year 1904 the conditions of service of both the English and Irish Veterinary Departments were

under the consideration of the Treasury.

In 1906 the Veterinary Officers of the Board of Agriculture and Fisheries were placed upon the present scale of salaries, but it was only in the latter part of the year 1917 that the Irish staff have been awarded the same terms, although the Vice-Presidents and the Secretary of the D.A.T.I. have consistently supported the

Claims for many years.
While the conditions of service now awarded closely assimilate those of the English staff, the application of

the conditions are far from satisfactory or equal.

Assistant Veterinary Officers and Junior permanent
Officers will be equally treated; but men of long service
are unfairly dealt with, inasmuch as they are asked to proceed by annual increments to the maximum now candidates for the very implicated. Considering the great delay of the Treasury in are called upon to perform.

acceding to the Department's representations, we hold that each officer should have been placed upon the scale of pay that his position and service would have entitled him to had he been serving in England, Scotland, or Wales; and most certainly officers of twenty years whole time service and upwards should have been advanced forthwith to the maximum, in accordance with precedent.

Another serious grievance, not even mentioned by the official circular, is the question of back service counting towards the pension claims. At present only about one year has been allowed for every two served. An entirely unusual procedure in dealing with whole time officials.

The conditions of service which the Irish staff seek have not been granted. Those conditions were formulated by this Association in 1906 at the request of the Vice-President D.A.T.I. (The Right Hon. Sir Horace Plunker K. R.V.) and briefly a reas fellows. Plunket, K.C.V.O.), and, briefly, are as follows:

An initial salary of £250 per annum, to proceed by annual increments to £500. The first three years service may be dispensed with on receipt of one month's notice, or one month's pay in lieu of notice. From the third to the tenth year, if dispensed with, an officer to be entitled to a gratuity calculated at a certain amount based upon his salary, and multiplied by the number of years service. If the officer's services are still required after ten years employment he automatically passes on to the establishment. Those conditions were submitted to capable and qualified judges, and pronounced to be fair and moderate. That some such conditions are urgently needed is proved by the dissatisfaction prevailing in the service, and the fact that the English staff have on more than one occasion since 1906 sought improved conditions, and, lastly, the very valuable report of the Departmental Committee appointed by the Board of Agriculture and Fisheries to enquire into the Veterinary Services, and of which Sir John M'Fadyean was Chairman, points out that the Civil Services were not sufficiently attractive to secure a sufficiency of suitable candidates for the very important work those Services

My Association would like to call the attention of the profession generally to the very important Agriculture is going to take in the future of our country, and veterinary science must take its proper place in connection therewith. We, as a profession, are quite willing to do our part, but why should we not secure our legitimate position in the new order of affairs?

I am, yours faithfully,
Thos. M'Guinness, M.R.C.V.S.,
Hon. Sec., Vety. Officers Association (D.A.T.I.)

THE NOMINATIONS FOR COUNCIL R.C.V.S.

The Glasgow Veterinary College, 4th Feb., 1918.

Sir,—Re the list of nominations for election to the Council R.C.V.S., as published in last week's Veterinary Record.

Will you permit me to make clear, what is not apparent from the brevity of the list, that I seek election as a representative from the Glasgow College.

This college is at present unrepresented on the Council, and I think most of our members will agree that each College ought to have at least one representative. -- Yours faithfully,

> S. H. GAIGER, Prof. of Pathology and Bacteriology.

STRAW IN MANUFACTURED CHAFF.

To the Editor of The Veterinary Record.

Sir,—In the discussion of the paper on Rationing of Horses, Mr. Irving stated that "he thought that I had Horses, Mr. Irving stated that "he thought that I had unintentionally misled the meeting, and that it was not necessary to put 20 per cent. of straw in chaff when horse-owners made their own chaff, and that the provision only applied to dealers who manufactured chaff for the purposes of sale. The consumer who made his own chaff was not bound to put in any straw at all."

The following is an extract from an Army Council

The following is an extract from an Army Council Order, dated May, 1917:-

"That on and after the 24th day of May, 1917, no chaffed or chopped hay shall be manufactured, purchased, sold, or delivered in Great Britain unless it contains not less than 20 per cent. of chopped straw.

I fail to see how this Order applies only to dealers as Mr. Irving says. Anybody chopping or cutting their own chaff obviously manufactures it, and it would surely be very unfair did it only apply to those who happened to buy their chaff already cut from dealers, etc. It is common knowledge that the 20 per cent. straw is not used by everybody, and I think the sooner the Order is more rigidly carried out or entirely withdrawn the fairer it will be.—Yours faithfully,

H. D. Jones.

SALE OF HORSE FLESH IN PETERBOROUGH

To the Editor of "The Veterinary Record."

Sir,-I have read your article, and quite appreciate

the common sense and fair play idea.

Mr. L. C. Welfare I know not, his address being ob-

scure I cannot communicate with the gentleman. Surely, for his future guidance, apart from his would-be ornamental position in the profession, he might have enlightened me as to his whereabouts. I could then have conferred with him as to his drastic remarks.

To you, a short explanation re the Shop. Having the suitable premises licence, I was approached by a representative body of citizens to open it for the sale of horse flesh for human consumption.

Not practising, nor being desirous of usurping the position of any veterinary surgeon or inspector, the meat inspector here being a layman, and of course he would inspect the carcases, to the best of his ability, of all horse flesh retailed here for consumption. There are 500 Belgian artisans and refugees in this City who, you know, prefer horse meat; these being supplied, the local butchers would have more meat to distribute or send to other centres where it is required.

It is not my intention to stand behind the block with the blue, white, or green slop on; but to purchase, finance, and generally superintend. At the same time for Mr. L. C. Welfare's edification, pay 80% excess war

The profession is a noble one, and has done great service both in and previous to this war, and I should be

one of the last to use any endeavour to lower the status so emphasised by Mr. Welfare.

Apologising for this lengthy epistle; 1 should naturally be very grateful to know what Mr. Welfare has done or is doing for the good of his country, his professional bathly and baself Vourselith in the control of the status. fessional brethren, and himself.—Yours faithfully,

HARRY WESTGATE, late Capt. A.V.C. Bank Chambers, Peterborough. February 6th.

ADVERTISING-

The Editor, "The Veterinary Record."

Sir,—I enclose you a cutting from *The Farmers'* Weekly. Are Members of the Royal College of Veterinary Surgeons in Africa allowed to advertise their patent drugs?

M.R.C.V.S.

Stop your Cattle from Dying.

USE THE ONLY PREVENTIVE AND CURE FOR GAL-LAMZIEKTE AND GALL-SICKNESS

Patented by A. MURDOCK, M.R.C.V.S.

All particulars enclosed with Medicine, or informatiou forwarded by Post if requested.

Prices.

Doses No. 1 and No. 2 for Gal-Lamziekte, 5/6. Dose No. 1 for Gall-Sickness, 3/-Half a dose No. 1 and No. 2 to each animal Prevents Gal-Lamziekte for at least six months.

Free on Rail Border Station.

CASH WITH ORDER.

Sole Proprietors:

South African Gal=Lamziekte

Preventive and Cure

Company.

BORDER STATION, NORTHERN RAILWAYS.

A NEW VETERINARY PENTARCHY.

To the Editor of "The Veterinary Record."

Sir,-I enclose a cutting from the current issue of the Stockbreeder. Where does this newly formed body sit? Does it meet at Red Lion Square, or in a back room down Fleet Street way? The lament on the absence of the "open sesame" is amusing. It occurs to me that if the egoism of the four minor poets at all approach that of the "Chief Rabbi" in this self-constituted council, we may expect great results from its continued deliberations.—I am, your truly, Jan. 28.

F. T.H.

ABORTION (DUFFER).—(1) Space forbids such comment as one would like to make on your most interesting letter. At a consultation of five experienced practical veterinary surgeons to-day, it was agreed that we know nothing more about abortion than you do, and can only tell you that the general experience is that the disease dies out in the third year, if no fresh cases are brought into the herd. All the remedies and preventives depend for their success on being used in the latter stage of the trouble, when nature works the cure, and not the drugs or vaccines. (2) The substances sent are undoubtedly trunks of nerve, as the council of five above mentioned agree. They were staggered at an amateur, and self-taught, carrying out such an operation as median neurectomy. What a pity there is no "open sesame" to neurectomy. What a pity there is no "open sesame" to the R.C.V.S. for one with such natural ability.—VET., in The Farmer and Stockbreeder.

THE FINANCES OF OUR COLLEGE.

To the Editor of "The Veterinary Record."

Sir,-May I suggest that, in order to facilitate the collection of subscriptions to the Royal College of Veterinary Surgeons, the Secretary should circularise all the members and enclose a Bankers' Order Form? This is a convenient way, to all concerned, of collecting subscriptions.

March, Cambs., 2nd Feb.

Yours faithfully, H. H. TRUMAN.

To the Editor of " The Veterinary Record."

"San Embargo's" semi appeal to the veterinary profession for subscriptions to the R.V.C. induces me to point out that all the M.R.C.V.Ss are not anxious as to the welfare of the present constitution of the corporate body; in fact, as far as I am concerned, it can go to the dogs. In the preamble to the money bill, great concern is taken to include men registered under the existing Practitioners' Act. without liability to payment of the fee, in the corporate body, a thing ridiculous to my mind, when they are rapidly becoming extinct, with no possible chance of adding to the

Quack medicines are more in evidence than ever they were, to the serious disadvantage of the country practitioner's ledger account. This can in no way be compared to human quackery owing to the death formalities.

No one will dispute that veterinary education has been neglected by the State from the financial point of view; who's to blame? I say those at the helm. The most glaring injustice I have to complain of is the action of the Council, or want of action of the registration committee in allowing the B.O.A. to send practitioners for long distances into the areas and to the alients of other practitions. into the areas and to the clients of other practitioners, to not only diagnose diseases of swine, but also to treat them.

The public can understand that if there are two or more veterinary surgeons in one place, only one will be appointed, but when men are sent 14, 12 and 11 miles respectively into your district, and past your own door, they get an idea that you are incapable. I have been asked by clients on many occasions why I was not qualified to do the work, in-

stead of having a man from miles away, or questions in the stead of naving a man from miles away, or questions in the same strain, I have had a practitioner sent by the B.O.A. a distance of 12 miles to my own pigs, which soon decided my pig-keeping career. Eight years ago I was largely instrumental in starting a pig club in my town which is still in a flourishing condition, but it is with fear and trembling that I attend to any of their patients owing to the fact that, should one die after my visit, I find on my next arrival another veterinary surgeon in attendance from a long distance, actually treating the animals, my own prestige down to zero, and liable to prosecution if I enter upon the scene, with no chance of reporting what is the matter to the members of the club, again a big drop in their estimation. How can I expect the owner to have confidence

in me to attend his larger and more valuable animals.

I note in the list of subscribers just published in The Veterinary News roughly 150 names, two-thirds of which are men in the A.V.C. Why are the others so few in evidence?

"A NON-SUBSCRIBER."

"EVACUATED TO HOSPITAL."

What are these straggling scarecrows, Marching with limping pace Tis a train-load of wounded horses, For a Hospital down at the Base.

Two hundred and eighty cripples, With every variety of ill, If you called 'em a mile of misery, It would pretty well fill the bill.

With coats like a moth-eaten hearthrug, With hips that projected like a rack, And ribs that a blind man could number, Sunken eyes and a razor-like back.

With bandages bloody and pus-stained. Wounds gaping, or packed up with wool. It's a sight to make pitying angels Turn away with a sigh, and eyes full.

"Fall in! fall in! for admissions, Detail ten men from each troop. Single file, left! through the gateway For classification and group.

"Bay gelding, light draught, and age seven, Wound, gunshot near hind, post to 'C, Through the dip, then mallein.
Tell the dressers to get him ready for me."

"Black mare, heavy draught, age twenty. Debility, ringbones both fore. Walk her up to the slab, and shoot her. She'll never be workable more.

Chloroform, scalpel, and forceps, Bistoury, probe, and curette; Crushed oats, and linseed, and locusts, And a Calcium sulphide dip.

So the horse that was limping and lousy, And thin, and wracked with pain, Once more gets his head and tail up, And—goes back to the front again.

Back to the toil and exposure, Back to the seas of mud, Back to the gas and the shrapnel, And the snow, and the rain, and the blood.

We are told there's a God counts the sparrows, And knows when each one of them fall; But He must have forgotten the horses, Though His Son was born in a stall.

France, 27/12/17.

A. L. WILSON.

ROYAL COLLEGE OF VETERINARY SURGEONS.

The following is a complete list of the Nominees for Election to Council as included in the foreign voting papers which are being issued this month:

Abson, J., Major A.V.C. (T.F.), D.S.O., Sheffield.
Banham, G. A., F.R.C.V.S., Cambridge.
Blenkinsop, L. J., Maj.-Gen., Dir.-Gen. A.V.S., D.S.O.
Brittlebank, J. W., Major A.V.C. (T.F.), Manchester.
Coleman, J. C., M.R.C.V.S., Swindon.
Gaiger, S. H., F.R.C.V.S., Prof. of Pathology, Glasgow University College.

Hamilton, D., F.R.C.V.S., Hamilton.
Howard, P. J., M.R.C.V.S., Ennis.
Mason, A. W., Lt.-Col. A.V.C., (T.F.), T.D., Leeds.
Packman, W., M.R.C.V.S., Bury.
Sumner, H., M.R.C.V.S., Liverpool.

OBITUARY.

ROBERT WARE, M.R.C.V.S., Martock, Somerset. Graduated, Lond: April, 1865.

Mr. Ware died on 23rd January, aged 77.

WILLIAM BENN CRONYN, Capt. A.V.C., Dromore, Newport, Co. Tipperary. Graduated, Edin: May, 1888.

Capt. Cronyn died in France, on the 1st inst., after a few days' illness from meningitis, following influenza.

W. H. Flook, f.r.c.v.s., Hampstead, N.W.

Lond: July, 1887.

Died 24th Jan., aged 51 years.

EDWARD WILLIAM HUGHES, M.R.C.V.S., T. Lieut. A.V.C. Liverpool. Livpl: Dec., 1916'

Death occurred 29th Jan., at the age of 28.

JOHN MITCHELL STEWART, M.R.C.V.S., Stirling. Edin: Dec., 1874.

Mr. Stewart deceased 25th Jan., at 67 years of age.

New brand for Sheep:

A South American (Buenos Aires) contemporary reports the invention there of a new method of branding sheep. It consists of a kind of punching machine, with sharp needles that penetrate into the hide of the animals; immediately after this, the place marked is rubbed briskly with a piece of solid indelible ink, which pene-trates into the punctures left by the brand, and leaves a

mark which is said to last a lifetime.

Sheep stealing, by the way, is quite a fashionable recreation in this part of the world.

ARMY VETERINARY SERVICE

Sandringham, Jan. 30.

The following Officers had the honour of being received by His Majesty at Buckingham Palace, when The King invested them with the Insignia of the respective Divisions of the Orders into which they have been admitted :-

THE DISTINGUISHED SERVICE ORDER. Major John Nimmo, Army Veterinary Corps.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Jan. 24.

REGULAR FORCES. ARMY VETERINARY CORPS. The notification in Gazette of Nov. 17, 1917, regarding

Capt. R. C. G. Hancock, Spec. Res., is cancelled. To be temp. Lieuts:—C. S. Conder, H. Cooper (Jan. 8)

Jan. 25. Temp. Qrmrs. and Hon. Lts. to be Hon. Capts.:—J. G. Cook (Dec. 14, 1917); J. A. Harmer (Jan. 28).

Jan. 28.

Temp. Lt. A. S. Miller is dismissed the Service by sen-

tence of a General Court-Martial (Jan. 10).

To be temp. Lts.:—W. F. Ashton (Jan. 8); T. A. Shaw,
A. N. Metcalfe, J. Litt (Jan. 10); A. D. Sanderson,
R. Beattie (Jan. 11).

Jan. 29. Capt. to be actg. Maj.: - J. M. Richardson, M.C., T.F. (Dec. 20, 1917).

Temp. Capt. J. A. Edmunds relinquishes his comm. on account of ill-health, and is granted the hon. rank of Capt. (Dec. 31, 1917).

To be temp. Lt.:-S. H. Pettifer (Jan. 15).

Jan. 30. Temp. Lt. to be temp. Capt.: -W. A. Dickinson (Jan. 16)

Jan. 31. Temp. Lts. to be temp. Capts .: - D. Forwell, W. A. Berry, C. Mackie (Jan. 15). To be temp. Hon. Lt.:—W. F. Codner (Jan. 14).

Feb. 1. Capt. (Bt. Maj.) G. W. Godwin relinquishes the rank of temp. Maj. (Dec. 27, 1917).

Temp. Lts. to be temp. Capts.:—G. F. Watkins, (Jan. 3); N. Bisset (Jan. 8); H. B. Kauntze (Jan. 15); S. R. Rippon, D. E. Orr (Jan. 16).

To be temp. Lts.:—T. A. O'Brien (Jan. 14); J. J. Clune. G. P. Kennedy, C. E. McCrea, J. P. A. Morris (Jan. 15)

(Graded for purposes of pay as a D.A.Q.M.G.):—Temp. Hon. Lt. H. A. Crowe, A.v.c., and to be temp. Capt. whilst so employed (Aug. 30, 1917).

Temp. Lts. to be temp. Capts. :- J. D. Fulton (Jan. 15); H. Fraser (Jan. 16).

To be actg. Lt.-Cols. whilst empld. as Asst. Dirs. of Vety. Servs.:—Capt. (temp. Maj.) W. J. Dale (Aug. 2, '17); Capt. (temp. Maj.) P. J. Simpson, T.F. (Aug. 15, '17). Temp. Qrmrs. and hon. Lts. to be hon. Capts.:—A. T. Youles (Dec. 31, '17); E. Epps (Jan. 12).

SPECIAL RESERVE OF OFFICERS.

Jan. 5. Hon. Capt. F. J. Andrews (late temp. Capt. A.s.c.), to be Capt. (Jan. 11).

TERRITORIAL FORCE, ARMY VETERINARY CORPS. Jan. 25.

Capt. (temp. Maj.) F. W. Pawlett relinquishes temp. rank of Maj. on alteration of posting (Jan. 3) (substituted for that which appeared in Gazette of Jan. 16).

Jan. 28. Capt. H. McVean to be actg. Maj. whilst comdg, a Vety. Hospital (April 17, 1917).

The following casualty is reported:-DIED-Capt. D. Hannay, A.V.C.

The A.V.C. Comforts Fund.

Dear Sir,—I enclose lists for favour of publication in this week's issue Veterinary Record if possible; and may I again thank, through your columns, all those kind subscribers and contributors of woollen gifts for their most generous support to the Comforts Fund.

It is specially gratifying to receive from officers of the Corps now on active service such kind letters acknowledging receipt of the bales and parcels of gifts

It is specially gratifying to receive from officers of the Corps now on active service such kind letters acknowledging receipt of the bales and parcels of gifts which the Fund has sent out to their units this winter, as well as the regular weekly newspaper supply which is forwarded to them.

In many cases these letters of appreciation are accompanied by a personal contribution to the Fund, which I feel is indeed encouraging, and is also very pleasant reward for one's hard work.—Yours truly,

ADELAIDE M. MOORE. 20 Parsifal Road, Hampstead, N.W. 6. Feb. 6th.

Subscriptions received since January 1st.

Duosci ipilono received since oundu	9 10			
Sir John M'Fadyean	£5	0	0	
Capt. H. Chown	2	0	0	
Mrs. Aitken	2	2	0	
per Maj. J. O. Andrews: contribution				
from No. 10 Vety. Hospital, B.E.F.	10	0	0	
North Wales Vety. Med. Society,				
per Mr. Richard Jones	2	2	0	
Capt. William Stevens		10	6	
Capt. David C. Greene	1	1	0	
Capt. J. Forrest	1	10	0	
Mrs. J. W. Rider		10	0	
Capt. J. J. Plunkett	1	1	0	
Capt. F. J. Weir	2	2	0	
per Capt. T. G. Heatley: contribution				
Officers, N.C.Os. and men, North-				
umbrian A.V.C., N/c-on-Tyne	5	5	0	
Mrs. George Male	1	1	0	
per LtCol. A. Porritt: contribution,				
W. Lancs. Dvl. V. Hpl., Hounslow	3	1	1	
Capt. J. C. Gaunt, A.V.C.	5	0	0	
per Maj. A. Baird, Edinburgh:				
Miss Bell £5 0 0				
Mrs. Usher 1 1 0				
Mrs. Herdman 1 0 0				
Mrs. Meldrum 5 0				
	7	6	0	
Capt. D. R. Crabb, A.V.C. (T.F.)	1	1	0	
Capt. C. P. Fisher, A.v.c.	1	1	0	
Capt. H. B. Williams, A.V.C.	1	0	0	
Capt. Douglas V. Reed, A.A.V.C.	1	1	0	
4. 12. 12. 12. 12. 12. 12. 12. 12. 12. 12				

Parcels received from :-

Mrs. Alison Brown Invergordon, (2 splendid parcels); Mrs. J. O. Andrews, Lichfield; Mrs. Fowler, Curragh; Mrs. Barber, Brewood; Mrs. Kirby, Leicester (2 pcls.); Mrs. Cowan, Penicuik; Mrs. Garnett, Windermere; Mrs. Hibbard; Mrs. Howarth, Bowdon; Mrs. Baird, Edinburgh; Mrs. Rutherford, Dublin; Mrs. K. McL. M'Kenzie; Mrs. Chadwick; Mrs. Leckie, Lyndhurst.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:—

W. Ascott, Major A.V.C.	£1	1	0	
R. J. Bailey, Kirkham, Lancs.	1	1	0	
A. P. Burgon, Haverhill	1	1	0	
E. M. Chatterton, East Rudham	1	1	0	

		_	_
H. Chown, Capt. A.v.c.	1	1	0
W. A. Clifford, Staplecross, Sussex	1	1	0
D. D. Franco Dublin			
R. B. Freeman, Dublin G. J. Furness, Alfreton (1917, 1918)	1	1	0
G. J. Furness, Alfreton (1917, 1918)) 2	2	0
H. Gillmor, Ayr J. Holroyd, Blackburn L. W. Wynn Lloyd, Carnarvon W. A. MacGregor, Capt. A.V.C. R. E. L. Penhale, Torrington	1	1	0
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W. A. MacGregor, Capt. A.V.C.	1	1	0
R. E. L. Penhale, Torrington	1	1	0
J. L Perry, Cardiff	1	1	0
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R. L. Phillips, Loughborough	1	1	0
H. A. Reid. LtCol. N.Z.V.C.	1	1	0
A. R. Routledge, Capt. A.V.C. Sir Fredk. Smith, Major-Gen. A.V.S.	1	1	0
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J. M. Stewart, Swansea	1	1	0
J. Storrar, Chester	1	1	0
J. S. Walker, Kirkby Lonsdale	1	1	0
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T. Lishman, Major A.v.c.	1	1	0
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C. Masson Torquay	1	1	0
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R. Moore, Treorchy	1	1	0
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Personal.

A VETERINARIAN J.P. AT MARCH.

A month ago, when the appointments to the March magisterial bench were made, surprise was felt by many people in the town and district at the failure to recognise the claims to the honour possessed by Mr. H. H. Truman, whose record of public service, including four years as Chairman of the Urban District Council and a magistrate, gave him, it was felt, a prior claim to the Commission of the Peace. This view was widely endorsed, and the Advisory Committee consequently came in for much adverse criticism on account of Mr. Truman having seen fit to resign the prominent positions he held in the Conservative party because he considered that the action of its representatives indicated that he no longer enjoyed their confidence. The upshot was that the Advisory Committee met again and decided to recommend that Mr. Truman should be raised to the magistracy; and the appointment has now been made by the Lord Chancellor.

A native of Whittlesea, where his parents still reside, Mr. Herbert Henry Truman came to March some 22 years ago, and for a long time now he has played a prominent part in the public life of the town. He was returned for the Urban District Council in 1905, when he first offered himself for election, and he has been a dominant personality on the local authority ever since. In debate he has always shown himself fearless and outspoken, and his business aptitude and sound judgment have helped in a material degree to advance the interests of the town. For the four years from 1908 to 1912, including the Coronation year, he occupied the position of Chairman of the Council, and he discharged the duties, which carried with them those of a magistrate, with much credit to himself. Other positions which Mr. Truman holds in local affairs are those of a Gov-

ernor of the March Consolidated Charities, including Governorship of the Grammar School, and Manager of the elementary schools. The March Horse Show Society owes much of its success to his enthusiasm, and under his chairmanship the show came to be recognised as one of the best in the country. Extremely popular with the farmers, with whom he comes closely into touch in his capacity as a veterinary surgeon, he has been chairman of the March Branch of the Farmers' Union since its inception, and is Vice-Chairman of the County Committee. Mr. Truman is also a member of the Council of the Shire Horse Society, a member of the Hackney Horse Society, and the Shorthorn Society, and the Royal Agricultural Society, and he holds the positions of veterinary inspector to the Board of Agriculture and the Isle of Ely County Council

of Ely County Council.

Mr. Truman is a keen Freemason. He was initiated in the United Goodfellowship Lodge, Wisbech, in 1906, and in the following year he joined the Caldwell Lodge, March, of which he became Worshipful Master in 1916, afterwards being made Prov. G. Standard Bearer. He was advanced in the Fitzwilliam Mark Lodge, Peterborough, and was a founder of the St. Ives Mark Lodge and the Stradbroke Mark Lodge, becoming Senior Warden of the latter in 1917 and Prov. Senior Deacon in 1916. Elevated in the Henniker Mariners' Lodge, Ipswich, he was a founder of the Stradbroke Mariners' Lodge, Cambridge, in 1914, and of the Stradbroke Mariners' Lodge, March, in 1917. Afterwards exalted in the Etheldreda Arch Chapter, Wisbech, he was a founder of the St. Wondrede Arch Chapter, Wisbech, he was a founder of the St. Wondrede Arch Chapter, Wisbech, he was a founder of

the St. Wendreda Arch Chapter, March, in 1913, and was Third Principal in 1917, while he has also been installed in the Preceptory of the Holy Rood, Cambridge.—The Cambridgeshire Times.

DIXON.—On January 26th, to Major J. A. Dixon, A.v.c. (T.), and Mrs. Dixon, of Leeds—a son.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anthrax		and-1	Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Swine Fever.	
Per	iod.			Out- breaks (a)	Ani- mals.	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- oreaka (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.	Zeek e	nded Feb.	. 2	5	10					162	348	19	13	3
Corresponding week in	-	1917 1916 1915		12 7 14	12 7 18			1 3 1	1 12 1	106 98	918 247	33 10 15	34 71 73	9 200 216
Total for 5 weeks,	1918	•••	•••	35	43			2	3	749	1520	113	84	27
Corresponding period in	{	1917 1916 1915		68 63 88	72 65 100			4 7 3	4 25 5	439 487	926 1332	174 97 79	193 385 407	72 1244 1782

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive
(a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Feb. 5, 1918

† Counties affected, animals attacked :—
Excluding outbreaks in army horses.

IRELAND. Week ended	d Jan. 26				 		Outbreaks 3	7		
Corresponding Week in	1917 1916 1915				 	:::	3 4 1	13 21 13	3 2 5	18 7 28
Total for 4 weeks, 1918					 		14	50	1	1
Corresponding period in	$ \begin{cases} 1917 & \dots \\ 1916 & \dots \\ 1915 & \dots \end{cases} $	1 1 	1 5 	:::	 	:::	5 9 3	67 65 53	12 13 15	66 36 80

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Jan. 28, 1918.
Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

THE VETERINARY RECORD

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1545.

FEBRUARY 16, 1918.

VOL. XXX.

OPERATIVE SURGERY.

Such communications as the Surgical Cases by Capt. Ralph Bennett which appeared in our pages last week and Capt. Brayley Reynolds' contribution to the proceedings of the Royal Counties V.M.A., which we print to-day, suggest possibilities of future changes in general practice. A great deal of operative work is being done in the army, and most of the men performing it will ultimately return to private practice. Some of them, as a result of their army experience, may be led to undertake operations of greater variety and of more serious nature than most private practitioners have yet been accustomed to use. This would be a good thing for the profession and for the public.

In the past we have had our share of skilful operators, some of them quite unknown outside their own districts; and naturally they have included some men who were always too anxious to operate. Probably the exploits of this latter class have done something alike to prejudice many owners against operations and to increase the reluctance to operate that some clinicians show. Such a reluctance exists, and is sometimes carried to extreme. Many English veterinarians in the past have failed to utilise their operative opportunities, and some do so to-day. The operative repertoire of such men is limited, they hesitate to go beyond it, and they shrink still more from attempting any operation the prospects of which appear very dubious. The result is that many patients are lost which certainly could have been saved by nothing

Two of Capt. Bennett's cases were ventral herniæ, one a large one, and both were successful. Herniæ are among the cases upon which some practitioners hesitate to operate. There are many reasons for this, such as the frequent difficulty of the actual operation, the care necessary in after-treatment, the impossibility of promising a radical cure, and the fear of catastrophic sequelæ and their effect upon the surgeon's reputation. Possibly this last point has rather too much influence with practitioners in many other operative cases besides herniæ; for most owners, if the possibilities of the case are fully explained to them at the start, will accept an unfortunate result in good part. The economic question, of course, has to be considered; but here The economic present conditions tend often to render operation more advisable. The high value placed upon useful animals, which will continue for some years, has deprived of much of its force the old maxim of "Let the first loss be the least."

There has always been a field for general opera-

country. The economic conditions of the next few years, at least, will increase the necessity for capable workers in that field. Of course, there are many difficulties in performing important operations in an ordinary practice, but a great deal may be done to surmount them; and the modern tendency towards simplification in technique renders surgery easier to general practitioners. Such additional facilities as the existence of good text-books on surgical anatomy, which have not always been available to us, now enable a working clinician to improve his surgery to an extent that at one time was scarcely possible. Just now there seems to be hardly any subject better worth study by clinicians than operative surgery. members now in the army have special facilities for combining study with an unprecedented amount of surgical experience, which it will be to their advantage to fully utilise. In that case there may follow a very considerable elevation in the general surgical standard of the profession, at a time when the country needs all the resources of veterinary science more urgently than ever before.

POISONING BY ANDROMEDA FLORIBUNDA

By HENRY TAYLOR, F.R.C.V.S., Haywards Heath.

This unusual poisoning occurred in a female pedigree goat for which advice was sought because it was taken ill when about to have kids. The which might not have been saved by operation, but symptoms presented were: great weakness, depression, loss of appetite, and straining as if in labour. The attendant, who had had several years experience with goats, said that shortly before my visit she had been sick and brought up some watery fluid—a thing he had never observed in goats before. On making a vaginal examination the os uteri was found not to be at all dilated: this examination was made because of the obvious straining and the knowledge that the period of gestation was about at an end.

> As the symptoms of vomition in ruminants are almost always associated with the ingestion of evergreen shrubs, poisoning by rhododendron was suspected, but the attendant remarked that poisoning was out of the question, as the animal had been turned out only in the yard for several days past.

> The next morning the goat was unable to stand, and vomition was more or less constant. After a preliminary retch a quantity of green fluid mixed with ingesta would be ejected. Prostration was very marked and there was a good deal of straining.

Next morning she was found dead.

P.M. In the rumen, amidst a mass of grass and tive work in veterinary practice, especially in the hay, were quantities of small lanceolate leaves about 14 in. long, which were identified by the gardener, who happened to be present, as those of Andromeda floribunda. He further remarked that there were some small branches which had been lopped off a bush in the carriage-drive, in amongst a collection of dried brushwood situated in a part of the yard. On going to the spot indicated we found these small branches, and in addition we noticed the goat's footprints in the mud.

There was only a slight inflammation of the

rumen here and there.

There are several species of Andromeda; the Andromeda floribunda is an evergreen bush which produces an abundance of white, though rather Lily of the valley-like blossoms in dense clusters. It flowers quite early in the year, and the flowers have a peculiar attraction for bees on bright, sunny

ABSTRACTS FROM FOREIGN JOURNALS.

ENDOVENOUS INJECTION OF MORPHIA IN COLIC.

Teppaz and Dufréchon, Le Recueil de Médecine Vétérinaire for 1917, describe the following modification in the use of Morphine for colic. They commence the treatment by a copious bleeding (5 to 6 litres) and injections of Pilocarpine (0.1 gramme) or Eserine (0.5 gramme). If the pain persists for an hour afterwards they inject 0.25 gramme Morph. hydrochlor. into the jugular. The effect is instantaneous. The animal becomes calm, or presents only slight pains with intervals between them. The authors have never seen the least sign of the stimulant action frequently observed after injections of Morphine.—(La Clinica Veterinaria).

STIMULATING PHASE OF THE ACTION OF ATROPINE.

It is generally admitted that Atropine acts exclusively by paralysing the pneumogastric. The mechanism of its action, however, is much more complex, extending to the whole system of organic life and to the accelerator nerves of the heart.

Petzetakis, commencing from clinical observations, has been able to demonstrate a stimulant action of Atropine which precedes the paralysant

phase.

It results from this that Atropine, at the commencement of its action, augments the excitability of the cardio-moderator elements of the vagus. This is manifested especially by slackening of the rhythm, which may indeed appear to be due to diminution of the excitability of the accelerators, but research on the direct and reflex excitability of the vagus permits the conclusion that it is due to excitability of the vagus.

The action of Atropine may be summarised

schematically as follows .-

1. Initial or stimulating phase. There is first a period of hyper-excitability of the vagus, which is manifested by slackening of the rhythm. Then follows a period in which a direct accelerating action upou the cardiac ganglia is added to the excitability of the vagus. At that time a small total acceleration of the rhythm above the normal is manifested.

2. Late or paralysant phase. The moderator elements of the vagus become paralysed, so that they lose their direct and reflex excitability. This phase is manifested by a strong acceleration of the cardiac rhythm.—La Clinica Veterinaria, from Policlinicó, 1917).

ASCARIDES AS THE CAUSE OF EPILEPTIFORM ATTACKS IN DOGS.

One case was an animal some ten weeks old. well nourished, but with the eyes swollen and humid, and showing slight difficulty in locomotion. During the examination the animal showed great nervous-The diet consisted of milk, boiled rice, and buiscuits boiled in milk. The colour of the urine was normal, its reaction was acid, its specific gravity was 1.032, and it had a broth-like odour. Chemically, it contained a slight amount of sugar. Microscopical examination of the fæces revealed a large number of eggs and some larvæ of ascarides (Ascaris mystax).

The animal was given 0.1 gramme of Santonin with 30 grammes of Castor oil. This was divided into three doses, one dose given every four hours. Some twelve parasites were expelled as the result of this treatment. After the treatment, the epileptiform attacks ceased and did not return. A subsequent microscopical examination of the fæces did

not reveal eggs of parasites.

The second case was a two-year-old dog, in good condition, but changing the coat and showing a reddening of the conjunctiva, with considerable depression. The diet consisted of rice and of leavings from the table. The colour and odour of the urine were the same as in the first case; its specific gravity was 1.028, and it contained traces of sugar. Microscopical examination of the fæces demonstrated numerous eggs of Ascaris mystax. The dog was given 0.2 gramme of Santonin in 45 grammes of Castor oil, with the same result as in the first case—that is to say, that the treatment produced a general improvement.

Both dogs, according to the owner, had suffered repeated attacks of convulsions, during which rapid depression, movement of the eyes, spasmodic contractions of different parts of the body, opisthotonos, salivation, and inclination to bite could be appreciated. These symptoms totally disappeared in fifty minutes after the treatment.—(Revista de Higiene y

Sanidad Pecuarias).

W. R. C.

VICTORIA

VETERINARY BENEVOLENT FUND.

10 Red Lion Square, London, W.C.1. 12th February, 1918.

To the Editor, "The Veterinary Record.

Sir,-We have received the following letter from "A sincere Well-wisher";-

"Dear Sirs,-If you can obtain 100 members who will double their subscription, or secure another 100 subscribers, I will double my subscription.

I am surprised and disgusted to learn that out of Benevolent Fund, and the hope was expressed that 3400 members of the profession there are less than other Associations might deal with such interest in a one-eighth who feel sufficient interest in those who have gone down to help raise them and their dependents to a partial state of comfort. "Yours very truly, . . .

From our point of view, we would prefer that 100 new subscribers should be found rather than ask members who already subscribe to double their subscription. But all contributions will be welcome, and we are sanguine enough to believe that there are many more than 100 members of the profession, who have not subscribed, to whom the Association:—Capt. J. C. Coleman, Swinder; Mr. W. A. payment of half-a-guinea a year would not be very | Hancock, Uxbridge; Mr. W. Pauer, Blackwater, with burdensome, even in these distressful times, the Hon. Secretary.

Charity begins at home. May we, therefore, Capt. J. C. Coleman said he had never had a notice

for this purely Veterinary Fund?

Yours faithfully, P. J. L. KELLAND, Hon Secs. FRED BULLOCK,

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—SOUTHERN BRANCH.]

The Annual General Meeting was held at Great act as a representative? Western Hotel, Reading, on Friday, Jan. 25, when the President, Mr. J. Willett, London, presided, and with him were Capt. Brayley Reynolds, A.v.c., London; though he had inserted a note to the effect that sub-Messrs. J. McIntosh, E. Brown, London; Capt. J. C. scriptions were due to the Treasurer. Some individual Coleman, Swindon; Messrs. W. T. D. Broad, Marl-borough; R. J. Verney, Oxford; W. Pauer, Blackwater; G. P. Male, Hon. Sec. and Treas., Reading, and Prof. George H. Wooldridge, a visitor.

The President, Mr. Male: The affiliation fee is 1/- per head, and I think we are two years in arrear.

The President Meeting was held at Great at as a representative?

Prof. Wooldridge replied that he had not made personal applications to individual Societies since the war, though he had inserted a note to the effect that sub-dependent of the manufacture of the second of the previous meeting having head.

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The minutes of the previous meeting having been

published, were taken as read.

Apologies for non-attendance were received from the following: Messrs. T. B. Goodall, J. McKerlie, F. H. W. Cundell, R. Page Bull, J. East, S. H. Slocock, Sydney point. Pennington, J. R. Baxter, G. H. Williams, H. A. Mac point. Cormack, G. E. King, W. N. Thompson, H. G. Lepper, T. W. Lepper, J. H. Parker, J. Varney.

The Hon. Sec. reported that he had received the reply of the Council of the Royal College of Veterinary Surgeons to the resolution passed at their last meeting.

Surgeons to the resolution passed at their last meeting.

and the matter was discussed.

The accounts for year ended Dec. 31, 1917, were presented. Mr. MacCormack, who audited them, unfortunately was prevented by illness from making a report,

but certified as to their correctness.

Mr. MALE, in submitting the accounts, said the finances of the Association were in very good fettle, in spite of the fact that it was not necessary for the subscriptions of officers serving to be paid. The expenses had been cut down very considerably. They had purchased £50 worth of 5 per cent. War Loan rather than let the money remain idle. There were a good many arrears, and it was rather difficult to get into touch with some of the members concerned as they were abroad. Some had not the PRESIDENT thought the paid their entrance fees or arrears yet, but he had no the agenda for the next meeting. doubt they would do that when they returned from the war. With the finances in their present flourishing war. With the finances in their present flourishin condition he thought they should not be pressed now.

similar way.

On the proposal of Mr. McIntosh, seconded by Capt. Brayley Reynolds, the accounts were passed.

NEW MEMBERS.

We should be grateful if you would kindly make Mr. A. E. Willett, as a member. Mr. Male seconded, this generous challenge public through the medium remarking that Mr. Willett had been a visitor on several

occasions. The nomination met with ready acceptance.
Mr. McIntosh proposed election of Prof. Wooldridge as a member. The proposal was seconded by Capt.
Brayley Reynolds, and unanimously agreed to.

REPRESENTATIVES TO NATIONAL ASSOCIATION.

count on much wider support from the profession of a Council meeting sent to him and had never attended a meeting. Replying to Prof. Wooldridge, he said that

he was not now a member of the National.

Prof. Wooldridge therefore thought that it was quite possible, though he was surprised, that Capt. Coleman did not receive a notice. There had only been one Council meeting last year, in April, and there would be one next April. He gave instructions to the pub-lishers to send a notice to all the Council and to all the members. It was taken for granted that the members of Council were also members of the National.

Mr. Male asked, if the Society paid the affiliation fee for each member would that entitle the member to

think we are two years in arrear.

The President: If the liability is due it ought to be

an instruction to the Treasurer to pay it.

Prof. WOOLDRIDGE: My view is that at the end of
the war there will have to be some consideration of this The Union is, at present, at a minimum of ex-When the war is over the next annual meeting will be held at Edinburgh, and then there will be considerable expense, as in old times.

The President: Then we shall be called upon to pay

Prof. WOOLDRIDGE: I cannot say. My personal view is, there should be some compromise.

Mr. McIntosn: The best thing to do is to leave the

matter over.

Mr. Male: Should officers on service be paid for? Prof. WOOLDRIDGE: If you don't receive their subscription you don't pay on it. You pay on the number of effective members.

The President thought that any arrears on their

effective membership should be paid.

Mr. Male considered it would be best for Prof. Wooldridge to bring the matter forward at the next meeting. Any sum it was then decided they were liable for they

would be only too glad to pay.

The President thought the matter should come on

INTERESTING CASES.

Chronic Bronchitis in Cows. Mr. W. T. D. BROAD It was decided that the sum of £1 19s. 4d., interest brought a most interesting specimen in the form of part on the War Loan be given to the Victoria Veterinary of a lung of a cow which had had husk, was badly affected, and during the winter became worse. This cow and another one fell lame with enormous swelling of the legs, extending right up to the chest. He wished to know if there was any connection between the husk parasite and the suppuration in the legs?

Prof. WOOLDRIDGE said the septicemia might be set up from chronic bronchitis. The lumps in the lungs

Mr. PAUER: How many cows were affected in the limbs?

Mr. BROAD: Two. But at the same time the whole of the cows coughed much more than before.

Mr. Male: And all had husk in the autumn?—Yes. Mr. PAUER: Were these two worse than the other animals?

Mr. Broad: Yes. They were slaughtered, as they

could not get up nor stand.

Mr. VARNEY observed that cows down a good time

were very apt to get suppuration.

Mr. Male said, from the appearance of the lungs he diagnosed chronic bronchitis. Several farmers had reported to him that all their cows were coughing. Some had husk; others had not. Some of the cows were injected for husk and appeared to recover, and recently they had started coughing again.

Capt. Brayley-Reynolds asked if the swellings were painful, and Mr. Broad said they came on slowly and

were painful towards the end.

Prof. Wooldridge said he could not answer definitely whether the affection of the limbs was secondary to the condition of the lungs. Certainly that was possible. The condition was much more common in sheep than in

Mr. PAUER thought it improbable that the condition of the legs had anything to do with the lungs. Thousands of animals were affected with husk and their lungs were choke-full of parasites. If the condition of the limbs were due to that there would be far more cases.

Sterility in cows. Mr. BROAD said: I have a client with a herd of 56 cows in milk, 14 herfers in calf, due to calve now, and 11 younger heifers with a bull turned in a yard with them. Of the 56 cows, 16 are due or heavy in calf, the others have calved and are all turning to the bull since the beginning of December. None of the 11 heifers are in calf, and keep on turning. The 56 cows are nearly all second calved cows. Two bulls have been used, both of which have got stock previously on the same farm. Another bull has been introduced only a week and was known to be a stock-getter before, so could not have introduced the disease.

No discharge can be seen, but only a lot of pin-head swellings just inside the vagina, which appear as white swellings under the membrane when the latter is I have seen these in normal cows but not so stretched.

prominent.

The only experience I have had before of this contagious sterility was in a herd of 13 heifers, the only adult cattle on the farm. They all proved barren and, being fat, were sold to the butcher. The bull, which was a borrowed one, was returned to the owner, and served 12 cows out of a herd of 60; these 12 turned out barren. Another bull which was tried on these 12 cows was sent to another dairy of 80 cows belonging to the same owner, and used on about 12; these commenced to act in the same way. The owner then tumbled to something being wrong, and cleared out the bulls and those which had been served by them.

I should like to have the experience of the members

present, and a little advice as to what to do.

Capt. Coleman quoted the similar case of a herd of 89 cows, a number of which would not get in calf. They were injected with anti-abortion vaccine, but without result. About 23 had been bulled at different periods; one had been bulled 36 times in three years. He was sinuses and fistulae.

recommended to try Perchloride of mercury and after the treatment 26 or 28 all proved in calf. The one that had been bulled 36 times was in calf and had not turned. Another man did not know whether he had contagious abortion, and he (Capt. Coleman) gave him 84 pessaries. Last Wednesday he told him that all of his cows were standing. The pessaries were placed in the vagina one day and the cow was given seven days rest; then more pessaries were inserted and the cow had another seven days rest. The next time she came on to bull she was allowed to be served.

Mr. Brown said that the treatment Capt. Coleman mentioned was what the Board of Agriculture recom-mended in view of what they heard from practioners. He said that sterility was a separate condition from abortion, and was a specific contagious disease.

Mr. Male remarked that many cases of sterility occurred in herds badly affected with contagious abor tion when vaccine was injected for contagious abortion the cows lost their sterility and got in calf again, but it was evident that there were two distinct diseases producing the sterility.

Capt. Coleman said this was not the experience in

regard to the cows he had mentioned. As soon as the

pessaries were used the sterility ceased.

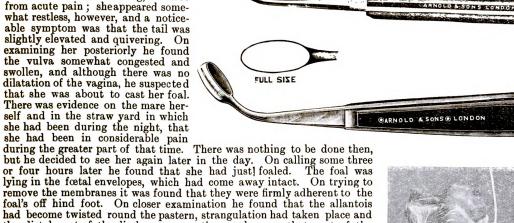
Prof. WOOLDRIDGE said the actual disinfectant was not so important as the persistent application. When cows turned, if there was a persistent injection of Condy's Fluid daily for a week, and then a Bicarbonate of soda solution for two days before returning to the bull, in the majority of cases the cow would get in calf.

Lesion on nasal septum of horse. Capt. Brayley Reynolds then exhibited the nasal septum of a horse, which he thought was of considerable interest in view of the rather unusual lesion on it, which, unless care were exercised in the examination of it, might be mistaken for that of a much more serious condition. He described in detail the lesion and outlined what, in his opinion, was the history of it. An instructive discussion centred round this specimen.

Capt. Reynolds was to have presented a paper. He pointed out that owing to the time that had been occupied by the various items on the agenda paper, not sufficient time remained for him to do so. There was hardly time to give the paper; there certainly would be no time for discussion. As he had taken some time to prepare it he thought that it was owing to him to have it discussed, or, as the Chairman suggested, to be "rattled" over it. He asked for nothing better than this. With their permission, therefore, he asked to be allowed to withdraw his paper for another occasion. He had brought several other things with him which he would be pleased to put before them, and afterwards, if any time remained, he would endeavour to keep them interested.

Quittor knives. He exhibited some quittor knives, or renettes. One, a French pattern, serviceable in some respects, but which he had found to be too straight for some of the methods of operating; another of similar pattern, but curved, which he had had made, but had found that the cutting edge, being longer than was really necessary, was often a drawback, so he had had two others made, which, by being bent in different directions and having shorter cutting edges, enabled any corner to be got into in any of the methods of operating for excision of the lateral cartilage. Due to the cutting edge being in the form of a loop any tissue cut by it was completely severed from its connections; an action that did not follow the older forms of quittor knives, which were only bent round at the end. He had found that these knives were extremely useful also used as curettes in other parts of the body, especially for curetting bone or cartilage, and very efficient in removing the lining of

Placental strangulation of foal's foot. Capt. Reynolds next exhibited a photograph of a foal's leg and the FOLL SIZE os suffraginis from the same leg. He was called to attend an in-foal shire mare—about three weeks to go suffering from colic. On arrival, he found the animal standing, and free from acute pain; sheappeared somewhat restless, however, and a noticeable symptom was that the tail was slightly elevated and quivering. On examining her posteriorly he found the vulva somewhat congested and swollen, and although there was no dilatation of the vagina, he suspected that she was about to cast her foal. There was evidence on the mare herself and in the straw yard in which she had been during the night, that



had become twisted round the pastern, strangulation had taken place and the distal part of the limb was necrotic, as also was that part of the allantois forming a sort of bag over it. From the small size of the foot compared with the rest of the leg, and also from the appearance of the suffraginis after it had been boiled out, this strangulation must have taken place some considerable time beforehand. He considered it to be the result of inter-uterine movement of the limb. He had not heard of a similar condition in animals, but he understood that the condition had been observed in the human subject, and that not only strangulation, but actual amputation of a limb had been known to occur. He was not prepared to say whether the lesion was the exciting cause of the slipping, and thus responsible for the exhibition of severe pain, or whether the mare had suffered from a severe attack of colic which had determined the The foal was dead, but there was evidence that death had taken place not more than a few hours previously.

Analagous injuries to tubercle of scapular spine and outer tubercle of humerus. The lesions he was now about to describe were discharging sinuses, which he had observed in army horses and mules, resulting from sequestra detached from the positions named. Although during all the years he had been connected with veterinary practice he could not recall having seen precisely similar conditions, he saw no reason why they should not occur in civil practice, and so thought it would be of some interest if he described them. In the one case the external opening was situated about the middle third of the scapula, in the other about the middle of the humerus. A most noticeable feature in the cases he had had to deal with was that the upper lesion was almost always in the horse, and the lower in the mule. He had been unable to ascertain the early history of the lesions: the animals only coming into his hands when the lesions were established. Some had come down marked "gunshot wounds"—a quite excusable error from their appearance. On probing the sinus it was not always possible to detect the piece of detached bone—the tissues attached having dragged it out of position. In some cases the sequestrum, having become quite free had "wandered" some considerable distance, as all foreign bodies have a tendency to do, and not necessarily in a downward direction.

He emphasised this point as showing the necessity for careful search in some cases. The sinus was, as a rule, very small—many only admitting a small metal probe—having a wall of very dense inflammatory connective tissue, thus making the free escape of the sequestrum an impossibility. Treatment consisted in following out the sinus, laying it open freely, and Occasionally one removing the loose bone. Healing took place readily. might get to the end of the sinus and find nothing, but on searching carefully one would find probably that the sequestrum, having moved back along the sinus, had escaped in another direction. As regards

the cause he had at first thought that external injury was responsi-ble—kicks probably. The factor that decided the persistent localisation of the lesions was the exposed nature of these bony prominencies. He observed, however, in several cases in which the lower lesion existed, that the ridge of bone, leading up from the outer tubercle to the external tuberosity, was also torn away. This suggested muscular rather than mechanical injury. The teres minor muscle is inserted into this ridge.



This caused him to consider whether or not muscular action might be responsible for the two lesions. A point, which was not without some significance was that a muscle did actually pass, more or less directly, between the tubercle of the scapular spine and the outer tubercle of the humerus. The anterior portion of the deltoid muscle arises, not actually from the tubercle of the scapular spine but at a short distance from it, from the scapular fascia, which itself is firmly adherent to the tubercle of the scapular spine, and is inserted into the outer or deltoid tubercle of the humerus. The action of these two muscles is to abduct the limb, or more concisely, outwardly rotate the humerus; and in a lesser degree to flex the shoulder. He could hardly conceive that a voluntary action of these muscles could be of such force as to cause either of the lesions, but he thought that an action opposite to the normal one of these muscles might be of sufficient force to cause them. Two such actions suggested themselves :- One, a forcible adduction of the limb such as would occur if the animal was banged into suddenly on the opposite shoulder or elbow region; the feet being stationary on the ground and the body being driven over, the action would be of the nature of a forcible adduction of the limb opposite to the side from which the force came. The other, a forcible extension of the shoulder joint, such as might occur by an animal getting the foot, or lower part of the limb, accidentally caught and then hanging back. If muscular action were the cause of the lesions, he could offer no explanation why in the case of the horse the higher lesion usually occurred, and in the case of the mule, the lower one.

THE

The use of Hypochlorous acid solution for wounds. Capt. Reynolds remarked that since this subject was contained in the paper he had prepared he thought he might refer briefly to it. They had all heard of Dakin's solution. This depended for its action upon the presence of hypochlorite of soda. Unfortunately, the manufacture of this solution, in order that it should be really reliable, was not a simple matter. A 5% solution of hypochlorous acid was equally serviceable, and much more easily prepared. It was prepared by dissolving an equal quantity of chloride of lime—in case "J.D." should see the report he ought to say chlorinated lime, bleaching powder—and boracic acid. Two methods could be adopted:—one by mixing the powders thoroughly in the dry state and then dissolving them in water; the other by dissolving the chloride of lime in the water, afterwards adding the boracic acid. The mixture in either case is well shaken, allowed to stand for several hours and filtered off. The quantities were 12.5 grammes of each substance to 1 litre of water: 2 drachms of each to 1 pint of water is a rough equiva-lent. The chloride of lime should be fresh. The efficacy of the solution was proportional to the length of time it was maintained in contact with the wounded surface.

Mr. Male: Is that solution called Eusol?
Capt. Reynolds: Yes. By a little ingenuity one could easily devise means whereby the solution could be applied in the form of slow irrigation. A satisfactory method he had adopted was to place the animal in a narrow stall, and suspend from the roof or wall, at a suitable height, a tin canister from which the solution was carried to the wound by small rubber tubing, the extreme end of which was tied up and several small holes cut through the side of it. The tube was maintained in position by tying it to a "pig ring" put through the skin at the edge of the wound. In the case of wounds that allowed of it, such as those following the median line operation for fistulous withers and poll evil, so as to ensure an even distribution of the solution to the whole surface of the wound, he first of all placed a thin layer of cotton wool, cut to the exact shape of the wound and soaked in the solution, then the perforated rubber tubing, and over this another layer of wool, the It may be pointed out that it is not those preparations

same shape, also soaked previously in the solution. By this means the solution percolated evenly over the whole surface. The rate of flow could be regulated by applying to the rubber tube a piece of wood made after the manner of a clothes peg. At the onset of treatment he had the wound irrigated for half-an-hour three times a There was a decided tendency to scalding of the day. skin by the solution; this could be controlled by applying vaseline to protect it. It was necessary in some cases to use water to cleanse away discharge that had become adherent to the skin, but none should be allowed to come in contact with the wound itself. Any discharge there should be wiped off with cotton wool before applying the irrigation. He had never seen, following the use of any other drugs, wounds take on such a definitely healthy appearance in so short a time. The dry powder-Eupad-was an excellent dressing for various conditions sometimes displayed by wounded surfaces during the course of their existence.

Finally, Capt. Reynolds exhibited a set of hobbles and a castrating rope. He claimed no originality for the idea of the hobbles—they were really Farmer Miles' pattern. He only claimed an improvement in their make, and in the method of putting them on. By following this method the animal went down easier, and the hobbles were in the right order for taking off when used in conjunction with sidelines for rig and other abdominal operations. They were strong enough to cast any horse, noiseless, compact, and yet light—only 3½ lb. When called to accident, parturition, and other doubtful cases, one would often like to take a set of hobbles but for their usual bulk and weight. There was no need to hesitate with these. He had often carried them even when riding.

The castrating rope he did claim some originality for. He gave a demonstration of its use, pointing out the simplicity and security of its application, and the ease and rapidity of its release.

Owing to the lateness of the hour the discussion on

these subjects had to be postponed.

Mr. Verney's son gains D.S.O.

The PRESIDENT said they congratulated their old friend, Mr. Verney, on the fact that his son had gained the D.S.O. It had been a source of great pleasure to him to watch his successful career in the army, and he hoped Mr. Verney would convey to his son their very hearty congratulations.

Mr. Verney thanked Mr. Willett and the members for their kind expressions, which he would be very pleased to convey to his son, whom he expected home

for a few days leave.

An informal dinner was then partaken of under the genial chairmanship of the President, and a very pleasant evening was passed.

G. P. Male, Hon. Sec. and Treas.

REPORT OF THE GOVERNMENT VETERINARY BACTERI-OLOGIST, SOUTHERN RHODESIA, FOR THE YEAR 1916.

The routine work of the laboratory has considerably increased during the past year, and in the absence of the laboratory assistant on war leave most of the technical work has fallen upon the bacteriologist himself; the lay members of the staff have rendered any assistance within their power. The work has included the examination of over 2500 smears and specimens from the 'field,' and almost as many from animals under experiment at the laboratory. Of the former, 120 smears have revealed the parasites of African Coast Fever, 125 the parasites of other diseases. Thirty-three specimens of serum have indicated the presence of contagious abortion in cattle. in which the causal organisms of diseases are readily found which occasion the greatest labour and anxiety, but those in which after prolonged search no parasites can be detected, because failure to find them, if present, may lead to a faulty diagnosis, misleading to the veter-inary officials responsible for the administrative side of the work. Moreover, smears are frequently carelessly taken, and forwarded without the necessary clinical details upon which to base a microscopic examination. The importance of careful and accurate laboratory diagnosis in assisting the administrative side of the Veterinary Department has been emphasised during the past year on many occasions.

Experimental Research Work has been considerably handicapped by the demands of the routine and technical work, and it has been impossible to devote to it the undivided and concentrated attention it deserves. Thus much of the research which has been attempted has had to be abandoned. Nevertheless, it is felt that in spite of these difficulties considerable progress has been made in the solution of some of the chief problems which handicap the pastoral industry of the country. For reasons of economy full details of the experiments carried out cannot be published, and only the results attained can be referred to in this report.

Horse-sickness. In the report from this Division for 1915 it was stated that in the absence of suitable animals for experiments in connection with this disease, the Commandant General had placed at our disposal, on generous terms, horses recently imported as remounts for the police. At that time eighteen horses had been thus supplied. The system was continued during the present year, and the results obtained were considered so satisfactory that it was decided to apply the process to horses already on the strength. Batches of six or eight animals were at first sent to the laboratory for inoculation, but later large numbers were stabled at the Police Headquarters Depot, Salisbury, and were treated there under a Farrier Sergeant Major and staff. In this way 156 police horses were inoculated, with a loss of twenty animals. As these have been collected from all parts of the country, and have been inoculated without regard for their age or condition, it is felt that the death rate 12.82 per cent is not excessive. The average age of those animals which have died as shown by the police records animals which have died as shown by the pointe records is eight years and nine months, but as aged horses when purchased are recorded as eight years old, the average is probably somewhat higher. The immunity of these horses when distributed and exposed to natural infection remains to be seen.

Experiments have been conducted to determine the degree of immunity conveyed by this method. Three horses were taken, two previously inoculated, and one as a control not previously treated; into each of them was introduced a quantity of virus taken from an animal which had died as the result of inoculation by Theiler's method. The control bores died on the sinth died as the result of the sinth died as the sinth method. The control horse died on the sixth day, while the two vaccinated animals remained unaffected

Again, police horse No. 092, inoculated in October 1915 was brought in from Makwiro district during September and was given a quantity of the same deadly virus; no reaction followed Mules inoculated by Theiler's method have proved resistant to horse-sickness. in most districts of Southern Rhodesia, and it is hoped, since vaccinated horses resist the virus used in protecting the mules, that they will enjoy a similar degree of immunity. Nevertheless, it is known that one virus differs from another, and that the immunity against one may not necessarily hold good against infection from another, and thus it is anticipated that when inoculated police horses are distributed throughout the country many of them may become infected with a strain of virus peculiar to the district to which they are sent. This has been known to happen, but past experience has more severely at the time of treatment, but subsequently

shown that if this re-infection is detected and the animal is put by during the reaction its chance of recovery is considerably greater than that of an animal not previously treated. Thus the market value of an inoculated horse is increased and its usefulness for

police purposes is considerably enhanced.

During the year 1912-13, of 207 police horses 45 died of horse-sickness; and in 1914-15, of 193 animals 4 died of the disease. As the present season bids fair to be exceptionally severe, owing to the early and continuous rains, it is satisfactory to know that as many as 130 horses are thus to a large extent protected against infection.

It should be recognised that the inoculation of police horses in the first place was only undertaken with the object of carrying on certain experiments, and that the application of the process on a large scale was decided upon because of the excessive annual losses of police horses, which justified the operation so long as the in-oculation death rate could be kept below a certain figure. The method, however, is by no means perfected, and much experimental work is still required to place the process upon a strictly scientific basis. Until the many problems associated with it are solved by careful research, any method of immunising against it must rest upon a more or less empiric basis.

The plasmoses of cattle. The more general application of the principle of "short-interval dipping" has to a large extent reduced the losses due to these diseases, and at the present time there are farms to which cattle imported for the improvement of local herds can be introduced with safety without inoculation, and upon which the improved progeny grow up free from the tickborne diseases. Although the advantages thus derived are great, it must be remembered that the dipped areas in the country are far exceeded by those where the practice is not carried out, and ticks and the diseases transmitted by them are prevalent. Thus, there would appear to be three stages in the development of a herd; the first or pioneer stage, when imported animals cannot be used for the improvement of the native cattle unless inoculated, and when a heavy mortality of young stock must be expected from redwater and allied diseases; a second stage when by systematic dipping the veldt becomes tick-free, and imported stock can be introduced with impunity and the young progeny grow up and thrive free from disease; and lastly, the stage when the animals bred upon such areas being susceptible to tickborne diseases, cannot be exposed to tick-infested veldt, and thus the market for them becomes restricted. Therefore, in spite of the progress and advantages of systematic dipping there are certain disadvantages associated with it until the system becomes generally practised. There remains the necessity for a satisfactory method of inoculation for the protection of imported bulls exposed on infected veldt, and of young stock born upon tick-free farms, in order that they may be disposed of with safety beyond the limit of such areas.

During the past ten years efforts have been made to discover a satisfactory means of conveying immunity, but experiments have unfortunately been handicapped by the extreme cost of experimental animals which have of necessity to be imported from countries free from these diseases. From time to time consignments of cattle have been imported by progressive breeders anxious to improve the class of cattle in this country, and the Veterinary Department has been called upon to inoculate them to the best of its ability. Thus in 1911 94 bulls were imported and were inoculated with a loss of 5 per cent. only, but many of these were inoculated with a virus supplied from the south, and did not prove immune when exposed to natural conditions. Others, inoculated with a local strain of virus, suffered proved immune. The utility of such animals is some what impaired during their first year in the country, but records of many of them are available and show that some of them have taken honours in the show ring, notably the bulls "Baronet" and "Aerial Knight," and a considerable number have been responsible for as many as 200 to 300 progeny of improved type and bearing the impression of the sire.

Again, in 1912, about 68 animals were imported from overseas, 25 animals died, but it should be pointed out that their owners had been previously warned that such stock was unsuitable for inoculation on account of age, soft condition, pregnancy, or in-breeding, and the inoculation was undertaken under protest. Nevertheless, in spite of the heavy mortality the survivors proved a profitable investment—more than paid for the losses. The progeny of some of the inoculated females have

been sold for three figures.

In 1913, 94 cattle from Great Britain were inoculated with a loss of 27; this mortality, which took place during the absence of the bacteriologist, was probably due to some unaccountable exaltation in the strength of the virus used, and it was thought wise to suspend further inoculations until the process could be placed upon a safer basis. Since then no privately owned imported stock has been accepted for inoculation until October last, when 11 animals were received for treatment at the laboratory, the inoculation of which is not yet completed. During the interval two small consignments of young cattle from England have been imported for experimental purposes, and different strains of virus have been tested, with the result that it is now hoped that given suitable animals and proper accommodation, the method can again be applied upon a large scale. It has been abundantly proved that to obtain the best results animals submitted for treatment should not be too fat or pampered, or too highly bred, and should not exceed 15 months of age. The mortality among such animals should be insignificant, and recovery from the slight set-back caused by the operation should be rapid. Now that Rhodesia with her limited supply of high-grade animals has entered the meat markets of the world, no time should be lost to bring the bulk of her stock up to the same standard of excel-lence as that exhibited by the sample consignments.

Trypanosomiasis. In January it was reported to the Veterinary Department that a large number of pigs were dying from some unknown disease at two farms on the northern border of the Umtuli river. In one herd of 150 as many as 20 pigs had died, and at the time a large number were showing symptoms of the disease. In the second herd of about 50 pigs five had died, and

many others were severely sick.

Smears submitted from sick animals showed large numbers of trypanosomes of pecorum group, but differing slightly morphologically from the trypanosome commonly met with in cattle in the Hartley district, notably in the fact that the body appeared more flexible and the undulating membrane more highly festooned, so that in fair specimens it was afterwards possible to dis-

tinguish the two by microscopic examination.

One particular feature of interest in connection with the outbreak was that although the Hartley District has been known since the early days to be an area infested by Glossina morsitans, no tsetse fly had ever been encountered in the particular position where this out-break occurred, and there was every reason to fear that the disease might be transmitted by biting flies other the tsetse, or by some other means. Such a possibility was alarming, since the experience and research of the past ten years had led to the conclusion that so far as the Trypanosomiasis of animals in Southern Rhodesia is concerned, it is seldom, if ever, transmitted from sick to healthy in the absence of the tsetse fly. That success had been claimed hy workers in European labor-

certain forms of Trypanosomiasis can be so spread is admitted, and examples have been met with in neigh-bouring territories; but it would appear that in such instances certain conditions are necessary which may almost be laid down as axiomatic; these are, an original source of infection, generally an animal infected by the tsetse fly; an abundance of trypanosomes in the peripheral blood of the animal; very close contact between sick and susceptible animals; a vast number of transmitting agents, and finally, certain climatic conditions of warmth and humidity. These essential conditions are seldom, if ever, met with in Southern Rhodesia.

In order to study this disease of pigs, one or two infected animals were sent to the laboratory. With the virus thus supplied experiments were undertaken to ascertain the nature of the parasite and its infectivity to domestic stock, its transmissibility other than by the bite of the tsetse fly, and to obtain as quickly as possible a means of treating and preventing the disease caused by it. It was found that this disease could easily be transmitted from pig to pig by artificial inoculation of small quantities of blood, which gave rise to a disease rapidly fatal, killing untreated animals in less than thirty days. Small laboratory animals did not become infected even by repeated doses of virus from a natural case, and sheep and cattle exhibited a marked degree of resistance. Transmission experiments undertaken proved negative, and a natural experiment showed that infection from sick to healthy was not readily effected by biting flies. At the laboratory sick and healthy were closely styed together, and were continually pestered by swarms of stomoxys which were noticed to pass from one to the other. Nevertheless, no infection of the healthy took place except by means of the syringe. Thus the manner in which so gross an infection can have been brought about under natural conditions remains to be shown.

The problem of greatest importance to be solved was to find a means of protection and treatment. For several years the trypanosomiasis of Hartley cattle had been found to yield to massive doses of antimony and arsenic. But the former drug had to be carefully injected into the vein, because if it made its way under the skin it gave rise to severe abscesses and sloughs; it could not, therefore, be applied in the same way to pigs; further, its beneficial effect upon bovine animals was largely due to their peculiar tolerance to antimony. It was necessary, therefore, to discover a form of the drug which could be administered to pigs without harmful effects. and this was finally met with in a combination of emetic and arrhenal which was applied with most favourable results; but it has to be admitted that in the great majority of cases a complete cure was not effected, but merely, as in cattle, a state of tolerance established, enabling treated animals to live in apparent health until adverse conditions reduced their resistance, and once again the trypanosome reasserted itself and produced its harmful effects. Thus in one herd the results were most favourable and the disease was arrested, so that a large majority of animals could be fattened off and disposed of; but in the second herd, where the owner failed to supply an adequate diet, the good results of the treatment were but temporary, and most of the animals died.

During the year a few experiments have been conducted in connection with other forms of trypanosomiasis; the appearance of T. brucei var. rhodesiense in donkeys, working at the junction of the Umfuli and Umnyati rivers, indicates that the distribution of this form of infection is greater than was supposed, and in view of the possible transmission of the parasite to man by G. morsitans, and the invariably fatal disease set up, experiments were conducted with remedies for which

The most important of these was that recomatories. mended by Daniels and Newnham in The Lancet, Jan. 8th, 1916, p. 102, who claim to have permanently cured a case of human infection with T. rhodesiense by subcutaneous injections of 30 minims of Martindale's solution (injectio antimoni oxidi) given twice a day. This drug, when applied to pigs infected with the small trypanosome of pecorum group in the dose recommended produced no appreciable effect. Martindale's solution is supposed to contain one hundredth of a grain of anti-monious oxide in 1 c.c. of glycerine and water equal parts. Infected pigs and sheep received quantities containing as much as 0.5 gm. of antimonious oxide without harmful effect, but without beneficial results or apparent influence upon the course of the disease. An ox, naturally infected, received up to 2 gm. of the salt in suspension, but the parasites did not disappear from its blood and the animal died from trypanosomiasis six days after the last injection. The results with this agent were very disappointing, as difficulty was experienced by the military authorities in passing animals through the fly-belts of Northern Rhodesia on the way to the Northern Frontier of operation, mules became infeeted and useless for transport work, and fly-struck cattle proved unsuitable for human consumption.

The use of tartar emetic, although beneficial, has its disadvantages, owing to the difficulty in application and dangers of local injury, and it was hoped that if the trioxide of antimony was equally effective and could be applied subcutaneously in the form of a cream, it might take its place with advantage. Unfortunately, experiments showed that the results obtained were by no means as good as those following the use of emetic, and the treatment could not be applied in practice.

Dipping of sheep. Reference may be made to an experiment carried out at the request of the chief veterinary surgeon to ascertain the effects of "short-interval upon sheep and lambs. A small flock made up of 39 sheep and lambs of mixed breeds, the majority being half-bred Persians, but six of long-woolled varieties. were purchased for the purpose. All these animals were in a most emaciated condition and suffering from fluke, wire-worm, tape-worm, and the nodular worm of the intestines. It was with difficulty that they were driven from the farm from which they were purchased to the laboratory. On the 5th February dipping was commenced in Cooper's dip, 1 in 300 strength, in which they were immersed three times in ten days; the strength of the dip then being increased to 1 in 250. Dipping was carried on regularly twice a week in this strength until the 16th April, making 19 dippings in all. Ouring this period ten animals died, namely, four sheep (one woolled) and six lambs, these being the weakest of the flock. The rest of the flock improved markedly in the flock. The rest of the flock improved markedly in health. The experiment was then discontinued, but the result is still apparent in that the survivors are still alive and in the best of condition, and the ewes have given birth to lambs which have thriven and grown out in spite of the fact that most of them have been born during the dry season. The experiment was originally intended to determine to what extent small stock could be dipped with safety in areas which have to be freed from African Coast fever. It is possible that such drastic measures could not be applied in a damp atmosphere, or to woolled varieties-because of the damage to the fleece; but in practice this would not be necessary. The experiment, however, has gone further: it affords support to the observation of officers in the field that dipping exerts a beneficial action upon sheep infected with worms. The results have been so remarkable that when opportunity arises further experiments of a more exact nature will be carried out.

Contagious abortion. This disease has been detected by means of the agglutination test in several new centres

during the year, and owing to the local peculiarities presented by it has caused some uncertainty as to the best means of dealing with it. The application of the pipette method of collecting blood has proved of great value in enabling laymen to take specimens, which in the great majority of cases have arrived at the laboratory in a suitable condition for the test. In addition to quarantine, isolation, and the removal of the bull from the herd, vaccination has been practised in several instances. The results reported by officers in charge of the outbreaks have, on the whole, been favourable, but whether these can be attributed to the vaccination or to the other measures adopted cannot be definitely stated.

As the result of an investigation into the outbreak of this disease in the Marandellas district, D.V.S. Johnston reports upon the use of vaccine as follows:—"... It will be noticed that on those farms where the cattle were treated with vaccine there have been no cases of abortion, whereas, on Mr. Bradshaw's farm, where only antiseptics were used, the abortion broke out again after a lapse of several months." "On Nua Farm the cows aborted after being treated with corrosive sublimate solution, but after the vaccine treatment there have been no cases—unless the calf which was born and never found, was a case."

At a recent meeting of the Umvukwe Ranches Association the vaccine treatment was favourably referred to. As the result of experiments conducted by the Board of Agriculture in England, the protective inoculation of cattle against contagious abortion has proved successful when the vaccine has consisted of "massive" doses of living organisms; but equally good results have not been obtained when vaccines have been killed by heat. On the other hand, a certain firm of repute continues to issue a dead vaccine and claims good results from it. Although agglutinins are not identical with immunity they do to a great extent run parallel with it, and may be accepted as an index of the production of immune bodies in an organism.

Experiments were conducted to test the relative value of (a) living vaccine, (b) carbolised vaccine, and (c) vaccine killed by heat, from which it was found that a vaccine of B. abortus killed by extreme heat gave rise to a reaction almost as great as that produced by a living vaccine, but of a somewhat shorter duration. It would be unsafe to issue a living vaccine in this country, where transport facilities are often primitive and where it is often impossible to determine whether an animal is pregnant or not; but since a small dose of vaccine killed by heat does cause a marked reaction it is probable that frequent injections of massive doses would prove effications. Unfortunately the number of veterinary officers to perform the operation in the 'field' is limited, and the maximum capacity for cultivation of the organism in this laboratory is at present about 150 massive doses

Other Investigations. A number of experiments have been conducted with material suspected to be poisonous, some supplied by the agricultural chemist for test upon laboratory animals and others sent in from the field.

An outbreat of disease at Rusimbas Kraal, Chibi district, was at first suspected to be due to African Coast Fever, but when this diagnosis could not be supported by the microscopic examination of preparations, certain poisonous plants were suspected. One of these, a kaffir onion, known as 'Chitupatupa,' used by natives for poisoning pools when catching fish, was incriminated, but large quantities did not set up any poisonous symptoms in test cattle. Similarly the root of a bush known as 'Mutsuri,' used by the natives for the same purpose, proved harmless in comparatively large doses.

An interesting case of tuberculosis was detected in a nine-year-old cow in a herd in the Umtali district; the mother of the animal died of the disease in 1913 and the

grand-dam in 1911, both of them presenting lesions which in all probability were those of tuberculosis. The herd was tested with tuberculin and several animals were found to be tuberculous.

Accommodation. The inadequacy of the existing accommodation was pointed out in the Annual reports of this Division for the years 1913, 1914 and 1915, but has not yet been improved.

Expenditure. Details of expenditure are given and show that, exclusive of salaries, the work of the laboratory has been maintained at a cost a little over £300, and has been undertaken by the bacteriologist with the assistance of a lady clerk and a stockman.

(Signed) LL. E. W. BEVAN, M.R.C.V.S., Govt. Vety. Bacteriologist.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the follow ing subscriptions for 1918:-

A. H. Andrew, Capt. A.v.c.	£1	1	0
C. T Barnes, Cheadle	1	1	0
T. B. Bindloss, Capt. A.V.C.	1		0
J. Caldwell, Spilsby	1		0
Duncan Campbell, Capt. A.v.c.	1	1	0
W. A. Campbell, Boroughbridge	1	1	0
F. G. Edwards, Chester	1	1	0
E. P Evans, Cardiff	1	1	0
H. H. Ferguson, Warrington	1	1	0
T. C. Garry, Wandsworth, S.W.	1	1	0
W. W. Golding, Hertford	1		0
C. H. Golledge, Major A.V.C.	1	1	0
R. Herbert, Rochdale	1	1	0
S. S. Herbert, Capt. A.V.C.	1	1	0
C. G. Hill, Darlington	î	1	o
F. C. Hobbs. Newport.	1	1	o
E. H. Leach, Newmarket	1	1	o
W. Marshall, Capt. A.v.c.	1	i	0
A. W. Mason, LtCol. A.V.C., T.D. B. H. Mellon, Capt. A.V.C.	1	1	o
B. H. Mellon, Capt. A.v.c.	1	1	o
J. J. Mills, Capt. A.v.c.	1	î	0
H. S. Mosley, LtCol. A.v.c.	1	1	o
E. B. Reynolds. Capt Avc	1	1	O
C. Roberts, Tunbridge Wells	1	1	0
S. H. Slocock, Hounslow	1	1	0
R. C. Wheeler, Capt. A.v.c.	1	1	0
B. Whittam, Capt. A.V.C.	1	i	0
Prevly, acknowledged £478 4	0	-	O
Less error Jan. 19 list 10	0		
	— 477	14	0
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	£506	1	0

ARMY VETERINARY SERVICE

War Office, Feb. 7. The King has been pleased to approve of the following rewards for distinguished services rendered in connexion with military operations in Mesopotamia. Dated Jan. 1, 1918:

THE DISTINGUISHED SERVICE ORDER. T/Capt. W. H. James, Army Veterinary Corps.

War Office, Feb. 12. The following Officers have been brought to the notice of the Secretary of State for War, by the Army Council, for very valuable services rendered in connexion with the War up to 31st December, 1917 :-

Col. (temp. Brig.-Gen.) C. E. Nuthall, CB., A.V.S. Hon. Maj.-Gen. F. Smith, C.B., C.M.G., F.R.C.V.S., A.V.S., ret. pav.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Feb. 8.

REGULAR FORCES ARMY VETERINARY CORPS.

Capt. E. E. Bennett (ret.) to be temp. Lieut.-Col. whilst holding the appt. of Asst. Dir. of Vet. Servs. (Jan. 22). Temp. Lt. to be temp. Capt.:—N. P. Olsen (Jan. 25). To be temp. Lt.:—P. McLaughlin (Jan. 22).

Temp. Lts. to be temp. Capts.:—J. R. Hewer (Jan. 1); J. Robertson (Jan. 27). To be temp. Lts:—C. J. Peach (Jan. 25); L. P. Welden-

bach (Jan. 26).

Temp. Qrmr. and Hon. Lt. to be Hon. Capt.:-T. E. Kelly (Feb. 7).

CANADIAN A.V.C.

Feb. 9. Asst. Dirs. of Vet. Servs.—Temp. Capt. W. G. Stedman, and to be temp. Maj. whilst so empld. (Apl. 27, 1917) (substituted for the notification in the *Gazette* of Sept. 18, 1917); Temp. Lt.-Col. H. D. Smith relinquishes his appt. (Dec. 15, 1917); Temp. Maj. (actg. Lt.-Col.) F. Walsh relinquishes his appt. and actg. rank (Jan. 19).

rank (Jan. 19).
Dep. Asst. Dirs. of Vet. Servs.—(Graded for purposes of pay as D.A.D. of Ord. Servs.):—Temp. Maj. (actg. Lt.-Col.) T C. Evans, M.C.; Temp. Maj. (actg. Lt.-Col.) D. S. Tamblyn (June 27, 1917); Temp. Maj. C. G. Saunders (Aug. 10, 1917) (substituted for notification, in so far as it refers to these officers, in the Gazette of Dec. 15, 1917); the notification in Gazette of Jan. 9, recogning Temp. Maj. C. G. Saunders is cancelled. regarding Temp. Maj. C. G. Saunders is cancelled.

OBITUARY.

THOMAS STEVENS, M.R.C.V.S., Woodford Green, Essex. Graduated, Lond: Dec., 1890.

Mr. Stevens died on 3rd February, aged 47.

J. M. Brown, "Existing Practitioner," Ruthfriland, Co. Down.

Death occurred 30th January, at the age of 85.

The late Captain W. B. Cronyn.

Captain William Benn Cronyn was the third son of the late Dr. John Cronyn, of Dublin. He was educated at Hanover House, Bray, and Foyle College, Co. Derry, and will be well remembered in hunting circles in many parts of Ireland. In 1887, finding that a knowledge of veterinary work would be useful to him, he took the M.R.C.V.S. (Edinburgh), and on the outbreak of war at once joined the A.V.C. and was attached to the Remount Department. After two and a half years work in Ireland he, in spite of being over military age, volunteered for foreign service. After nine months service in France he contracted influenza in Marseilles, and, meningitis supervening, he died in hospital on February 1.—The

John Stranger

THE FINANCES OF OUR COLLEGE.

To the Editor of The Veterinary Record.

The letter of "Non-Subscriber" in your last issue—the man who would like our College to "go to the dogs"—savours a good deal of the village pump, and I sincerely trust not many of our members will be led astray by it.

"Non-Subscriber" writes about the present constitu-tion of our body corporate—the body corporate as elected by the vote of our members, so the constitution is of our own making—still "non-subscriber" growls. Of course, as far as I am personally concerned, I am quite delighted with our Members of Council, and most thankful to them for their labours.

As regards the Board of Agriculture sending specially appointed (I am not one) veterinary surgeons into our practices over swine fever, I welcome them with open arms, for I don't want the dirty work. I was called to perform a little operation on a sow to-day: her howls are still ringing in my ears. Where I like pig best is on the breakfast table, or a nice boiled fore hock, fat end,

for dinner.

Further, it is my experience that the men appointed by the Board are anything but a practical lot—not all, mind you, very often it is a F.R.C.V.S., or a postgraduate gentleman, and, as in my own case, a visit from the aspirant for pig practice does the local man good, as the following will show. I am an Inspector for a Borough. The police called me to a herd of pigs lately, as several had died. There were 50 pigs to start with. I examined the ailing pigs, and conducted a P.M. My opinion was that it undoubtedly was swine fever. The Board's light from a neighbouring town, who is Board inspector for the district, was sent over, and I believe thought it was swine fever, and inoculated all the pigs. However, in a day or two he was joined by a M.R.C.V.S. from the Board, and after mature deliberation they came to the conclusion it was not swine fever, and the place was cleared—and they had all been inoculated, mark you. (I may say that after reporting to our local police swine fever I am finished, and never go back-glad to get away to get on with my busy practice). In about a week the police called me in again, as more

pigs died. The same was gone through as in first case. Again I was called in, as more pigs were dying, and this time it was returned as swine fever, only three pigs now remaining out of the 50-valuable time lost-as many of the pigs would have made beautiful porkers if killed at first. There was great talk about it in the neighbourhood. It did me much good. The poor

owner of the pigs was nearly ruined.

I am a great believer in clinical symptoms and the history of the case in swine fever, but there is a grain of truth in what an old V.S. once said to me 20 years ago, when I got into a fog over an outbreak and hazarded my opinion to him that I knew nothing about swine fever. The old vet's answer was, "No, nor anybody else," and he had been 40 years at the job.

I may say that although my neighbour comes into my district over swine fever, I go wide into his district

on much more congenial work.

So I would advise "non-subscriber" not to be downhearted, but to forward his guinea to our college like a man, and I am certain he will feel in ever so much better humour than when he wrote his letter to you, Mr. Editor.

As to quack medicines: I think I put a stop to that fairly well in my own practice in the following way. When called to a case that had been bad two days, and having been told that the animal had so many black, blue and green drinks, I would say, "and how the devil do you think I am going to tackle the case when I don't know what your drinks contained?" If you think the people from selling milk I am aware. The Inspectors are

animal is on the way to the happy hunting ground do very little to put it out of its course, and when it has gone give sound advice to the owner in a nice way, and impress him-that it would pay him far better to send for me in the first instance, and not throw his money away on dead stock and patent medicine.

I am glad to see that subscriptions are still flowing in, although not nearly as last as the loaf is better than no bread.—Yours, etc.,
M.R.C.V.S. although not nearly as fast as they ought. Still, half a

12th January, 1918.

MILK PROSECUTIONS.

To the Editor of "The Veterinary Record."

Perhaps you may consider the newspaper cutting herewith enclosed of sufficient importance to give space for it. Judging by questions put to me by some members at a recent meeting of the Veterinary Medical Association, in Dublin, I think that the matter will interest your readers.

As the section of the Act dealing with the sale of milk is likely to be altered in the near future, I confess to feeling satisfaction in the fact of having pleaded for such change every time I appeared as witness for the

defence during the past two or more years.

In only one case has there been a conviction here during the said period, and in that I was not engaged, but was when it was appealed to a higher court, and the

case reversed.

My little experience relative to the above convinces me still more that a M.R.C.V.S. would be an acquisition to Parliament, irrespective of the just claim which the R.C.V.S. has to special representation there, for various reasons, in the interests of the State as well as in our own. It is a good many years since I advocated this in a letter which appeared in *The Veterinary Record*, and now that £400 a year attaches to the position, there is a further inducement to press the point, since a practitioner living in or near London would be compensated for whatever loss of time his attendance in the House of Commons might entail.

If it is our right to obtain the concession, is not this an opportune time to seek it; and why be apathetic? Trusting that our Council may at once see to it.

Yours truly, Model Farm, JOHN HOLLAND.

Athy, 2nd February.

To the Editor "Nationalist and Leinster Times."

Dear Sir,-At Athy Petty Sessions on the 22nd ult.. the magistrates decided on approaching the Chief Secretary with reference to getting the law dealing with the sale of milk changed. From no quarter could such request come more appropriately, the Athy Justices having been the very first in the United Kingdom to conclude that a person ought not to be convicted where it has been proved that the milk had been sold as it came from the cow, i.e., the whole milk. Said Justices are to be congratulated on the fact that in about a year subsequent to the first of their decisions in these cases, a similar ruling was made by the High Courts in England in an appeal case. I may remark that the decision of the Athy Justices—having been published in a widely circulated professional journal at the time-was extensively read throughout the United Kingdom and beyond it, and I am aware of its having been discussed and approved of it at least one University.

Any alteration which might bring about an increase

in no way to blame for this, and if anything like the form of inspection which I am about to suggest should ever mature, I should like to see inspectors adequately remunerated for the extra work which it would entail.

Of course, the chief cause of milk scarcity is because it has been more profitable to turn female bovines into beef. This hardly holds good at present, owing to the excessive price of cake and the great difficulty in obtaining any. No immediate relief need be hoped for on that account, however, since it takes so long to turn heifers into milkers; indeed it would be a question only of "live horse and you will get more grass."

It is a grievous hardship on an honest person to be accused of having added water to milk, or of having deprived it of some of its fats, whereas it would not blemish his character very much, if at all, were he accused only of being unfortunate enough in having

cows that gave milk of a poor quality.

In order to draw a distinction between the roguish and the honest milk sellers, I would suggest that it should be the duty of the Inspector when he pays his surprise visit and takes his sample from the milk exposed for sale to require to see the cows from which the milk had been taken, and direct that the said cows should not be milked until the same hour on the following day, when he would be present to see them milked and take a sample. He should then number the samples 1 and 2 and send both for analysis. Should No. 1—surprise sample, prove inferior to No. 2, and be below the legal standard, you have a clear case for conviction. Furthermore, if both samples prove below the standard prosecute—if you will—for having cows which give such milk.

The question may here arise—Would not the latter procedure be an unfair infliction on one who is incapable of differentiating the quality of one cow's milk from another's? To this I reply—establish convenient facilties to enable people to get each cow's milk tested separately at a moderate charge, and instead of being a wasteful expenditure it will prove most profitable to the owner, who will then be able to comb out and turn to the stall cows which do not pay as milkers, and milk consumers will be assured of a richer quality of milk all round.

I hope I am not trespassing too far on your space, Mr. Editor, but I should not regret if the change sought for by the Athy magistrates would so shape itself as to render it unnecessary that I should, in the future, have to appear in milk cases so often as I have had to do in past two years, as I am not fond of law courts. I feel so sympathetic with those whom I believed would not tamper with their milk that I fear the nature of my reasoning may possibly have led some to imagine that I wished to cloak the defendant, even though he might be guilty. Indeed, the cross-examination on one occasion went so far as to almost make it seem as if I had been questioning the correctness of the analysis, whereas I considered it most consistent with what the sample should be, having been only first, or fore milk. Far would it be from me to presume on questioning any work of such an eminent scientist as Sir Charles Cameron, whose acquaintance it is my pleasure to have, and to whom, and to the late Sir Christopher Nixon, it was my privilege—as President of the Veterinary Medical Association—to present honorary diplomas of that Association some years ago, before a large assembly in the City of Dublin .- Yours faithfully, JOHN HOLLAND.

Athy, 23rd January, 1918.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anth	rax		ot- Iouth ase.	Glan	ders.†		sitic nge. ‡		Swine	Fever.
Period.			Out- breaks (a)	breaks mals. b	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.	
GT. BRITAIN.				1		1				1		1 1	(-)	
	Week	ended F	eb. 9	6	6					153	256	13	12	3
Corresponding week in	{	1917 1916 1915		16 13 27	17 13 29			2 2	3 5 2	85 86	181 193	29 12 13	41 83 68	12 236 280
Total for 6 week	ks, 191	s		41	49			2	3	902	1776	126	96	30
Corresponding period in	{	1917 1916 1915		76	89 78 129			4 9 5	7 30 7	524 573	1107 1525	203 109 92	234 468 475	84 1480 2062

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked;— Excluding outbreaks in army horses.

IRELAND. Week	nded Feb. 2		1	J	 	Outbreaks 7	8		in
Corresponding Week	n $\begin{cases} 1917 & \dots \\ 1916 & \dots \\ 1915 & \dots \end{cases}$:::	 	 1 2	10 20 16	4 5 5	24 1 19
Total for 5 weeks, 1918					 	 21	58	1	1
Corresponding period		1 1 	1 5 		 	 6 9 5	77 85 69	11 18 20	90 37 99

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 4 .1918.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1546.

FEBRUARY 23, 1918.

Vol. XXX.

ANÆSTHESIA.

Anæsthesia is firmly established now in everyday veterinary practice in England; we yet may ask, Have we done our best to explore its possibilities? We know that none of our existing agents and methods for producing it are altogether satisfactory; but most of us are content to still use those we know best, without attempting either to

improve them or find superior substitutes.

For general anæsthesia in serious operations, most men rely upon chloroform alone. It has its disadvantages; but such substitutes for it as the A.C.E. mixture, however widely used in human surgery, have hardly received sufficient trial in our work. Chloral hydrate, again, deserves a much more complete trial than it has yet had in this Few English practitioners have ever employed it in surgery; but it has the recommenda-tion of having long been much used for major operations in several countries in which veterinary science stands high. Some of the methods of using it, such as the intra-venous, should not be attempted without some previous study; but this does not apply to the simple method of rectal injection so commonly used abroad.

Morphia-narcosis, valuable as it is in canine practice, might perhaps be improved. One possible line is its combination with scopolamine, with or without the addition of a cardiac stimulant, which seems hardly to have received a trial in veterinary

We have been less conservative as regards local Valuable as cocaine is, its disanæsthesia. advantages are so widely recognised that most men have tried some of the numerous substitutes offered for it—and some have tried many, though they are not very communicative of their results. Probably the combination of eucaine and adrenalin finds as much favour among practitioners as any local

anæsthetic, and deservedly so.

The intra-spinal use of local anæsthetics, which has been successfully practised upon animals abroad, offers a good field for an enterprising surgeon possessing the requisite skill. Equine surgery carries many indications for it; and Hobday has spoken hopefully of its possibilities of usefulness for the cat. It is scarcely likely that it will be widely adopted in general veterinary practice, on account of the difficulties of its technique; but that is no reason why a clinician capable of overcoming them should not take it up.

general or local anæsthesia has yet been discovered. many very valuable ones; and our task is, from macroscopic changes are not common in my examong these, to combine the maximum of efficiency perience. Microscopically, a tubular nephritis is with the minimum of risk. Any clinician with a present, with swelling and desquamation of the fair surgical practice may advantageously take up lining epithelium. Cystitis does not usually exist,

THE CONDITIONS OF SERVICE D.A.T.I., IRELAND.

In our issue of Feb. 9, p. 329, there appears a letter from Mr. T. McGuinness, Hon. Sec. V.O. Assn. (D.A.T.I., Dublin), setting out some points in the revised scale of Departmental salaries. claims of the Department have been met in part, but there are details which are, to say the least, unsatisfactory. It appears that men of many years service are placed on an equality as regards pension with junior officers and with men now joining the staff. This the veterinary staff, rightly, consider an injustice, and endeavour is now being made to get this matter righted. Numerically, the profession is too weak to exercise any control in the question, and it is desirable that those among us who are in touch with their respective Members of Parliament should bring this matter to their notice and obtain their assistance. The D.A.T.I. support the claims, and needless to say The National Veterinary Medical Association will back the profession in their endeavour. Mr. McGuiness gives a clear outline of the position in the letter previously referred to, which we commend to the notice of our readers, and will be pleased to furnish any further information if desired.

With the other conditions which need amendment we are not, for the moment, concerned; but no one in the profession will consider them in the least unreasonable, and the present is the time when they should receive every possible support.

BLOODY URINE.

In reference to correspondence on this subject in The Veterinary Record: The symptoms recorded by Messrs. Howie and Roberts have frequently come under my notice in New Zealand, where each year the trouble gives rise to many anxious enquiries on the part of farmers and others interested

As a rule, cases there occur towards the autumn and winter among animals on poor pastures, or depastured on root crops. In New Zealand cattle are frequently turned on to roots, these being simply pulled and left on the ground. Sometimes even this is not done, the roots being eaten where they grow. Thus they do not undergo the process of maturation which storing produces, they are less nutritious and digestible, and this, together with the relative scarcity and coarseness of other No absolutely ideal agent or method for either feed, appears to assist in promoting the trouble.

The lesions, on post-mortem examination, seem Very possibly none ever will be. But we have to be confined to the kidneys, though marked this work, in at least one of its numerous varieties. I though I have seen evidence of it in isolated cases.

not been able to establish this relation. Ticks are rare in New Zealand. They are found mainly in the northern parts of the North Island. Both Ixodes ricinus, and Hamaphysalis punctata species exist.

I have never been able to demonstrate conclussively the presence of piroplasms in the blood of a large number of subjects examined with this special object in view, nor have I been able to set up symptoms of hæmaturia by allowing ticks, both larvæ and adults, to feed on healthy cattle.

Treatment. I can fully support Mr. Roberts in that nutritive foodstuffs, particularly linseed, are far more efficacious than the display of drugs. Removal to fresh pastures, supplementary feed, saline purgative, followed by hæmatinics has been my general mode of treatment in such cases.

If taken in time affected animals will recover, but if treatment be delayed they become rapidly debilitated, anæmic, and finally die in an exhausted

condition.

The symptoms, in my opinion, appear to belong to a class of dietetic diseases of ruminants which are far from being properly understood. There is a tendency to attribute the symptoms to the agency of some specific organism, whereas probably they may depend upon some obscure physiological condition associated with defective metabolism, the cause of which is often most difficult to determine.

H. A. REID, F.R.C.V.S., Lt.-Col. N.Z.V.C.

FILARIASIS OF THE WITHERS IN THE HORSE.

By John Robson, M.R.C.V.S., Capt. A.A.V.C., France.

The above-named disease is one I have met in Western Australia, and in certain parts of that large tract of country it is of sufficient prevalence to merit the serious consideration of practitioner and horse owner. Considering the wide distribution of Onchocerca bovis, on which so much work has been done of late, added interest is lent to the ailment I am about to describe, inasmuch as in it we have another and similar filarial parasite affecting the Australian horse. Possibly it may be that parallel investigation of this equine parasite with that of the bovine may prove mutually helpful in elucidation of life histories and methods of infection in each case.

Preliminary remarks. The discovery that this withers affection is parasitic in nature was quite unexpected on my part, and was not made until after two or three years of practice in the State. On first settling there the number of cases of fistulous withers brought to my notice seemed unusually large, and to begin with I was inclined to attribute this to local factors—injuries from low hanging branches of trees being, to my mind, very probable, This explanation would, I daresay, have been most satisfactory were it not for the fact that it could

In regard to ticks as agents of infection, I have from this cause could not reasonably be presupposed were far too numerous to admit of that.

In my search for the probable cause I began to pay particular attention to a condition locally known as "dropped neck"—a wasted or atrophied condition of the muscles and tissues immediately in front of and between the withers. Quite a number of horses met with in one's rounds showed this deformity, which detracted a little from their appearance, yet did not seem to inconvenience them in any way or interfere with their working value. Examining for soundness I would pass such as sound. Habitual questioning of owners of these horses as to its origin elicited a variety of opinions or explanations—mostly very vague. Some were stated to have had a "fistula" and to have recovered; many were "thought" to have had fistula at some previous period; whilst in others it was regarded as resulting from feeding on a shrub locally known as the "black-boy," the top of which is rush-like, coarse, and very tough, though edible. My enquiries showed that although met with in many places, in certain farms and districts this "dropped neck" was specially frequent, a large proportion of the horses sold from such places showed the deformity. And it was in these districts and in the horses from them that "fistula" of the withers was correspondingly common.

Etiology. Repeatedly I had made and examined smears of fluid from opened cavities of "fistula" patients without result, but some four of five years since I definitely determined that this so called "fistula" of the withers was in reality filariasis. I had operated on a "fistula" case in hospital, the operation being a very radical one with removal of diseased or suspicious parts, and with ample drainage and "daylight" above. I had been well satisfied with the operation, and expected rapid healing, but a week later found that apparently no progress had been made. Curious as to the reason for this delay in healing, I made a careful overhaul of the wound, and in doing so noticed a fine filament floating in the clear water with which the wound had just been rinsed. The end of this filament was attached to the flesh of one side of the wound, and something about its appearance made me think it worthy of closer observation. therefore cut away the piece of flesh to which it adhered and put it under the low power of the microscope. This disclosed the filament to be a filarial worm. Later I had the horse put under a second operation and cut or skinned away the whole of the interior of the operation wound, and subsequent examination of the material obtained showed the presence of the worm throughout. To the naked eye, on very close inspection, the cut surface showed here and there tiny punctiform spots, which, on teasing with a needle, disclosed the presence of the worm. I had seen these punctiform spots on the material of previous operation cases, but had always looked on them as tiny arterioles running through the fibrous flesh, and in fact the resemblance is very marked. Looking back on not be applied to all—instances in which injuries perhaps twenty previous operation cases, I could recall similar appearances of the healthier or better portions of the material cut away, and came to the conclusion that it had been present in all of them, and that I had wrongly assumed these appearances to be normal. Since that time, however, all "fistula" cases on which I have operated have shown its presence, with the exception of two animals which had fistula of old standing-about two years. In both of these there was marked calcareous deposit, and from the disposition of this I had little doubt that had they been operated on earlier the presence of the filariæ would have been easily demonstrable.

The fact of these "fistula" cases being parasitic in origin once established, it was no difficult matter to trace the connection between this and the "dropped neck" condition. My investigations clearly showed that the two diseases, so called "dropped neck" and so-called "fistula" (both most inappropriate names), had the same etiological

cause, and were similar except in degree.

I have since ascertained that in "Law's Veterinary Medicine" brief mention is made of Filaria Reticulata on the Lig. nuchæ of the horse, and Wallis Hoare, in his recent work on Veterinary Medicine, speaks of Fil. cervicalis in the same position. I cannot, therefore, claim any originality of discovery as far as the actual parasite is concerned although perhaps this may be the first record of the definite the two filarial worms above mentioned are identical with each other and with the one described in these notes.

Description and localisation. The living worm is flesh-coloured and very thin, similar in thickness, shall we say, to that of very fine silken thread. My been dressed—the antiseptic had killed and decolourised the worm to a whitish hue, thus rendering flesh, but such flesh if placed in preservative fluid, fluid cavities alongside the Lig. nuchæ, or spinous processes, or between plates of muscle. Apparently possible to obtain pieces of such length. Generally occasionally a small and more thickly infested patch, or patches may be met with. I have not made any dissection to determine how far through the tissues the affected area extends, but it is probably extensive. Filaments can always be seen after operation (after rinsing and dressing with antiseptics), in the surrounding musculature of the intervals, often for some months, and then eventuwound—a fact of importance from a surgical point ally heal up. Most of these, however, owing to of view.

fistula operation and which had recovered after changes of the ligamentous and osseous tissues of about eight weeks was brought back to me several the region.

months later affected with poll-evil—the condition in this region being exactly similar to that which had previously existed at the withers when first seen. During the intervening months nothing had

been noticed amiss with the animal.

The Onchocerca affecting cattle in Australia is localised in clusters, chiefly in the subcutaneous tissues of the lateral sternal aspects, but filaments are present throughout the entire carcase, and considering the similarity of the two parasites, there is every probability of a similar infestation in the horse, the ligamentous tissues of the withers being, however, the preferential and chief site. equine worm does not conglomerate into clusters or "nests" as does the bovine parasite, and in comparison it is finer and more delicate looking, although in one case operated on the specimens secured were exceptionally large, practically similar in thickness to Onchocerca filaments.

Method of infection. On this I have no data, but incline to the theory of ingestion-probably from contaminated country. Instances were not uncommon of a discharging fistula case living for months in a stable with other horses, and although there were myriads of biting flies about I have not known or heard of anything pointing to trans-

mission.

SYMPTOMS.

Horses may contract filariasis of the withers at pathological conditions produced by it. Doubtless any age; old animals appear to be just as susceptible as the young. Generally the first noticeable sign of its presence is a slight swelling of one or both sides of the neck in front of the anterior border of the scapula and about three inches beneath the mane. The swelling is painless on palpation, although the animal is somewhat stiff and guarded first recognition of its presence was due to the in his head movements and avoids lowering the action of antiseptics with which the wound had neck too much. This swelling, may remain stationary, but as a rule increases to a moderate extent during the following few weeks, gradually involvit more easy of observation. In the living state it ing the region in front of and over the withers in a is practically invisible when lying in or on the more or less uniform swelling which persists for some months. In favourable cases this gradually e.g., formaldehyde in normal saline, will often show | begins to subside, and a natural depression results. it in unexpected quantity. Filaments up to three Atrophy and wastage of the tissues involved is a inches may occasionally be met, protruding into marked feature at this stage, its extent depending on the severity of the infestation, Very commonly a quite noticeable depression, in the median line, in such instances the parasite has extruded itself and capable of holding two or three tablespoonfuls from the adjacent tissues, to which it still remains of water is left between the antero-superior angles attached; certainly by dissection it would not be of the scapulæ. Probably three-quarters of the animals affected recover in this way, but with speaking the worm is only thinly interspersed, but horses running at large, definite percentage figures are difficult to obtain.

Of the remaining quarter representing the severe cases, a number after a time show more or less pronounced "pointing" at some part, usually about the front or top of the withers, and a sinus results which may remain discharging a small amount at outside infection with pus organisms, end in what One mare on which I had performed a severe we regard as true fistula, with necrotic and other

A few of the worst cases develop rapidly from side of the mane on one or both sides, carrying the beginning, the swelling being very large at the end of two or three weeks. This bursts, freeing either a serous fluid or a more or less pure pus, and often in surprising quantity. All cases of this class can and are to be regarded as fistula practically from their commencement—any palliative or repressive measures attempted are only so much wasted time. Atypical instances are occasionally met with involving the posterier region of the withers, the tissues on the outer aspects of the shoulder blade, and sometimes the neck. In the latter case, in the region of the poll a condition is produced practically identical with what we regard as poll evil. These cases are not common.

Quite a number of horses infected with this filarial parasite recover naturally. After a certain period of growth and activity the worms apparently become quiescent, healing takes place, and they undergo calcareous encystation. (c.p. Trichinosis of swine). During the period before this takes place—it may be several months, there is great likelihood at any time that the condition may become aggravated and real fistula result; that is, chronic discharging sinuses or pockets with degenerative and necrotic changes of ligamentous, osseous, and

surrounding muscular tissues.

This may happen in several ways:-

1. Lodgment of stray pus germs on the already inflamed worm-infested area.

2. Injury of the part, with largely increased effusion of serous fluid which tends to burrow.

3. Portions of the Lig. nuchæ, interspinous or supraspinous ligaments may become so thickly parasitised that their nutrition is interfered with, resulting in dead portions or "sequestræ." In such there is usually a large accumulation of fluid, which practically always burrows, and eventually ruptures to the outside. Pus infection, if not already present when this happens, is now established from external fistula are in evidence.

TREATMENT.

In the early stages—on swelling of the region first becoming apparent-I have attempted treat. ment of a number of cases by means of deep iodine and potassium iodide injections-using a fairly strong hypodermic needle and distributing the solution as well as possible over the parasitised area. Swelling results, subsiding in a few days, when the procedure is repeated. In conjunction with this, an arsenical course, 7 to 20 grs. per diem, was administered and kept up over a lengthy period. The results were fairly satisfactory, although one has to bear in mind that only a portion of such cases of wither filariasis, if left untreated, eventuate in true fistula.

Cases with discharging sinuses, or with large fluid or fibrous swelling require surgical operation. Setoning of such cases was attempted but soon discarded, being altogether too uncertain, and hopelessly prolonged.

these downward to give free and open access to the most interior part of the affected area. All diseased tissue encountered—fibrous, osseous or ligamentous, was removed, and drainage provided laterally by means of vertical incisions to the outside. A point worth noting here, and which applies to cases of old standing—several months to one year or more, is the amount of calcareous gritty deposit met with; a few spare scalpels to replace the blunted ones are most necessary. Pockets dipping down deeply between the anterior angles of the shoulder blades, or connecting with the bursa of the Ligamentum nuchæ were drained by an incision through the side of the neck. Usually serious bleeding resulted, but I was able to control it by immediately packing with gauze or wool, inserting this packing from above downward in one large solid mass and wedging it firmly into the drainage opening. But hæmorrhage was as a rule profuse throughout the whole operation, the vessels encountered are numerous, and difficult to take up, lying as they do in the fibrous and hard inflam-matory flesh. It was better policy, I found, to disregard these vessels as far as possible, and since free removal of tissue with large incisions and ample drainage appeared to me always an essential, I was usually compelled to hurry through the first or main operation, thoroughly opening the parts up, clearing away the main diseased mass, providing for the main drainage, and then packing tightly, securing the packing in position with a sufficiency of sutures. By this method undue weakening of the patient was avoided, and although a second operation was often necessary in the severer cases, yet, provided the first one was short, they were able to bear this quite well after the lapse of three or four days. The thorough examination possible, too, during the intervening period, was of excellent service in deciding just what required to be done; sources, and soon all the characteristics of true indeed in dealing with the severer class of case this two-operation method was much preferable and better withstood by animals than the single severe if complete one, and the results obtained were more satisfactory.

Examination of any fistula patient previous to operation was, in my experience, more or less useless as a guide to the extent of operation necessary; quite commonly an animal apparently only slightly affected was found extremely diseased, when opened

up with the knife.

The packing was usually removed 24 hours after operation, the wounds thoroughly rinsed with the water hose twice daily, followed by a douche with creolin antiseptic. A difficulty was encountered with the deeper seated cases in keeping patent the lower drainage opening through the side of the neck. The walls of this opening, passing as it did through about two inches of healthy muscle, tended naturally to become apposed between periods of dressing, and wound discharges tended to accumulate inside. The insertion of setons was adopted for a time but did not obviate this and was unsatis-The method I found best was a long horizontal factory. The trouble was eventually overcome by incision in the median line, or incisions close along- the employment of a strong piece of water hose

about in. diameter, and punched with as many holes as the fabric would stand without collapsing on pressure. Inserted from above downward through the lower neck incision and secured in situ, this proved an efficient and constant drain-any fluid accumulation, with consequent soddening of the inner areas of the wound, is entirely avoided. To allow of proper cleansing and sterilisation, two such tubes are used, these are changed once daily, and the arrangement is found extremely good.

During the first week or so following operation a light covering was kept over the parts to protect from dust and flies, but once healthy granulation had commenced this was discarded, free exposure to the air allowed, and astringents Pb. and Zn. applied. With the abatement of discharge dressing was cut down to once daily, later to alternate or third days, and dry powder applications Zn. and boracic substituted. Measures to prevent injury from rubbing were often necessary in the later periods of healing, and some animals are inclined

to rub very violently, Very recent cases, that is, animals showing filarial infestation of only a few weeks standing, were not altogether satisfactory from the surgeon's point of view. Several of these, subsequent to operation, developed minor extensions of the disease in tissues which at the time of operating had every appearance of perfect health. This practically never happened in cases of old standing, and I am inclined to believe that the administration of arsenic from the time of operation had quite a beneficial influence, tending I think to counteract these unpleasant little extensions. The period of healing—usually six to eight weeks-caused one, for economic reasons, to regard these fistula cases, i.e., recent cases, as on the whole not desirable, and especially so with animals of refractory temperament.

Chloroform anæsthesia was in all cases practised; apart from the view of it only being "fairplay" to the animals, the avoidance of pain led to a much more kindly tolerance of the subsequent dressing.

ABSTRACTS FROM FOREIGN JOURNALS.

A SPECIAL FORM OF EQUINE INFECTIOUS Broncho-Pneumonia observed in Belgium.

F. Boesch, in the Schweizer Archiv. für Tierheilkunde of 1917, describes an infectious bronchopneumonia observed in the horses of the German army in Belgium. He asserts that this particular form of infectious broncho-pneumonia was never observed in Germany, but rages in the Belgian territory. Horses of any age and breed are affected, but chiefly young animais of three to six years.

The clinical picture consists in a rise of temperature to 104.9° F. to just over 107° F., an abundant muco-purulent nasal discharge, painful cough, swelling of the submaxillary lymphatic glands (rarely with abscess formation), a dark red or dirty yellowish-red tint of the conjunctiva, acceleration of the pulse and respirations, crepitant sounds in diseased animals, but also by the common use of the bronchi, dulness in the lung, sometimes loss of implements, watering, etc.—La Clinica Veterinaria. appetite, and prostration.

Post-mortem examination reveals intense ædema of the nasal mucous membrane, and often swelling and hyperæmia of the tracheal and bronchial mucous membranes. The bronchi are filled with muco-purulent secretion. A catarrhal, purulent, or fibrinous inflammation of the lungs, with the formation of caverns and more rarely with pleurisy is observed.

The author makes some remarks upon differential diagnosis. This disease is much more malignant than strangles, giving a mortality of 24 % against the 2% of strangles. In it, also, the abscesses of the lymphatic glands which are so frequent in strangles are almost exceptional. The disease is distinguished from influenza by the cough, the characteristic nasal discharge, the tint of the conjunctiva, and the alterations in the bronchi and lungs. Finally, the disease is differentiated from equine contagious pleuro-pneumonia by the abundant nasal discharge, which is muco-purulent rather than rusty or amber-yellow, by the atypical fever, and by the absence of the friction sounds which occur in pleuro-pneumonia from the deposition of fibrin upon the pleura.

It was not possible to ascertain the etiological cause of this disease. Bacteriological examination constantly revealed streptococci, along with numerous other bacterial forms. The morbid lesions always had their seat in the bronchial and peribronchial tissue. The period of incubation lasted

from six to fifteen days.

In treatment, it is very important to remove the animals from work immediately and to regulate the diet. The patients should be placed in a wellventilated stable, or kept in the open-air if the season permits; the temperature should be ascertained daily; the food should be light and of good quality, and the clinical examination should be frequently repeated.

With such symptomatic treatment as expectorants, inhalations, abundant doses of camphorated oil, digitalis and caffeine, sinapisms, and subcutaneous injections of turpentine, the mortality was 27.8%. No good results were obtained with the use of Salvarsan, Neo-salvarsan, or Arsalyl. With antistrangles serum the mortality was 16.8%.

Good results were obtained from intravenous injections of from 60 c.c. to 80 c.c. of a 1 in 1000 aqueous solution of Sublimate. Used in the early period of the disease, this treatment, in almost all the cases, caused the disappearance of the fever, the localisation of the processes in the bronchi, and the diminution of the nasal discharge. This treatment reduced the mortality to 10 %.

The course of the disease is very slow. The animals are incapacitated from work for two or three months, and often ultimately die of cardiac debility or gangrenous pneumonia. Chronic lesions of the lung, such as solidification or atalectasis, also fre-

quently remain as sequelæ.

Cold and excessive fatigue act as factors predisposing to the disease. According to the author, contagion is effected not only by direct contact with W. R. C.

THE NORTH OF SCOTLAND VETERINARY MEDICAL SOCIETY.

(NATIONAL V.M.A.—SCOTTISH BRANCH).

The half yearly meeting was held in Marischal College, Aberdeen, on Feb. 8th. There were present: Messrs. Anderson, Brown, Beattie, Cumming, Clerk, Drennan, Hepburn, Howie, Kerr, Murray, McPherson, McBryde and Niven.

The minutes of last meeting having been published in

the Veterinary papers were taken as read.

Mr. HEPBURN, who occupied the chair at the commencement of the meeting, thanked the members for their assistance and support during his term of office, and briefly introduced the new President, Mr. William

Brown, College of Agriculture.

Mr. Brown, on taking the chair, asked the members to accord to Mr. Hepburn a hearty vote of thanks for the most efficient manner in which he had carried out the duties of President during the past year. This was

carried by acclamation,

PRESIDENTIAL ADDRESS. By WILLIAM BROWN, M.R.C.V.S., Marischal College, Aberdeen.

In the first place permit me to thank you for the appreciated honour you have done me in electing me your President for the ensuing year. I am highly sensible of the honour, particularly as I am one of the more recent recruits to the profession and to this Society. Still, when I look back and find that it is about ten years since I was elected a member of the Society, it makes me think how quickly the time passes on. During that period I do not remember to have missed attendance at any of the meetings. In recent times I may have had better opportunities of attending than most of you, still I would like to impress upon all members how necessary it is for all to try to attend as regularly as possible.

I do not wish to go into the history of the Association, For I, as one of its youngest members, know less about its origin and progress than most of you. I recognise that its healthy position is due to the attention given to it by my able predecessors, and in particular to our esteemed Secretary, whose untiring labours on behalf of the Society we all so heartily appreciate. We should We should look to these meetings as part of our welfare, and had we not been at war I should have recommended that we meet quarterly instead of half yearly. Although we have now a fairly good supply of literature as a profession, yet, many interesting subjects are discussed at these meetings which do not appear elsewhere, and after all the spoken word is always more interesting than the written page.

The primary objects of Veterinary Societies are to promote the welfare of the profession in general, and by discussion and exchange of views to render the members more useful to the general community, of which we are an important part. Although these Societies have no official status, nevertheless they have guided the general march of events, and our own small body can claim to have on several occasions rendered valuable assistance in sequence of the sequence o

in securing certain professional needs.
I must say frankly that I have looked forward with pleasure to my term of office in the Presidential chair, and I had hoped by that time the great conflict in which the country is engaged would have reached a successful conclusion, and that I would then have had a better opportunity of discussing the future needs of the profession. That hope unfortunately has not been realised but nevertheless, it is time that the profession should be setting its mind to the problem of the future, and to the reforms that will be required in the general reconstruction that will be necessary after the war.

There are so many subjects which one could deal with that it is only possible to discuss some of them in general. The veterinary profession is the youngest of all the learned professions, and when we consider that it is still under a hundred years since the first Veterinary College was established north of the Tweed, we cannot but be satisfied with the progress that had been made. In fact when we consider that our rapid development to our present status is practically entirely due to private energy and enterprise, it is little short of marvellous.

The immediate future of the profession, however, is momentous, and much will depend on how our ship is steered, and as to whether we are going to make every exertion to take the tide at the flood. If we do not take advantage of the present circumstances and claim the recognition which is our due we will be left in the background, fighting our own battles unaided as in times

times gone by.

Even in the midst of a great war it has been realised that our general educational system is deficient, and requires to be overhauled and reconstituted. What is true of education in general is true of veterinary educa-tion and the status of the veterinary profession in par-ticular. Schemes of reform are absolutely necessary if we are to keep pace with the forward progress of events which must follow the war, and an earnest attempt must be made to improve the general conditions of the

profession.

Much larger sums of money will shortly be asked from the Treasury to provide salaries for teachers commensurate with the importance of the work done by them in every branch of learning, as well as for the equipment of research laboratories and for the pursuit of research work. All this is very necessary for education in general, if we are to keep pace with the recent rapid progress of other countries, and now is the time for the veterinary prefession, the Council, the colleges, the societies, and the individual members, to make a solid appeal for State aid and State recognition. that I feel we are doomed to disaster. Individual enterprise has done much in the past, but I feel that the standard of efficiency which will be demanded in the future will be so high that State aid is our only salvation-and the profession undoubtedly deserves it

It seems anomalous that the Government should be calling out for veterinary surgeons in greater numbers than are available—that the recognise their invaluable services to the Army and to the State, and yet they did nothing to support us in the past. Having now as a profession made good our existence in this and in other ways, it is up against the State to support us in the

future.

The ignorance of the general public regarding the educational attainments and the qualifications of the veterinary surgeon is deplorable, and reacts to his disadvantage. There are many causes for this. I think it was the late Professor Boyce who remarked that veterinary men were generally characterised by extreme modesty and shyness, and although that is not true in all cases, yet there has been a distinct apathy on the part of most members of the profession to push thempart of most members of the profession to push them-selves forward into the limelight, and to seek public recognition by contesting for positions on public Boards. Every County Council should include in its membership a veterinary surgeon; and veterinary surgeons should also take a much greater interest than they do in public matters, and endeavour to get on to public Boards. Many of our members are highly qualified for public work, and their taking part in it would react to the credit of the profession to which they below: credit of the profession to which they belong.

Not the least of the causes has been the segregation

of our teaching institutions from the great cosmopolitan centres of learning, the Universities. This system of segregation of Veterinary Colleges served us well in times gone by, but a radical change is necessary. Such a segregation has a tendency to narrow the outlook of the student, socially, and intellectually. Our colleges should be in close touch with the Universities, which are the highest type of cosmopolitan teaching institu-tions. In these, huge sums of money have been spent in the endowment of "chairs," in attracting to them the best teachers in the land, as well as in the equipment of laboratories for the teaching of the exact sciences.

These sums are largely derived from Treasury grants to which, by taxes, we all pay our quota, but the benefits derived therefrom have hitherto been denied us. Why should not the veterinary student have advantage of this? why should we want separate colleges? Arts, science, agriculture, medicine, law, and divinity, are all satisfied to be part of the University. They have their separate faculties, why should we not have our Veterinary faculty? The student would receive a higher type of social and general education, and he would derive great benefit from intercourse with students of other faculties. Students in other faculties would soon come to have a higher appreciation of the value of the veteri-nary profession. The status of the profession would be raised, and it would attract the best men in the land. Degrees in Veterinary Science are now being given by some Universities, and while most people consider that the R.C.V.S. should still continue to grant the licence to practice, yet these degrees are valuable in marking a higher type of educational attainment, and special qualifications to engage in the pursuit of work in certain branches of veterinary science which have as yet been untapped.

A section of the younger generation is being trained to estimate aright the value of veterinary science through lectures to agricultural students as well as through lectures on hygiene and preventive medicine to the stockowner. Some veterinary surgeons believe that these lectures are detrimental to the interests of the profession, but those who are engaged in the work, and who from their position are competent to judge, know that exactly opposite is the case. These lectures teach the student and the stockowner that the knowledge of the veterinary surgeon carries him very much further in the diagnosis and treatment of cases than they themselves can go. It teaches the stockowner his own limitations. He recognizes when a case is beyond his knowledge, while the totally ignorant man carries on until the case is beyond hope before he calls in help. The men who have had this elementary training are the first also to recognise the superior knowledge of the veteri-nary surgeon, and the valuable assistance he can afford

them, and they appreciate that assistance.

Not a little of the scepticism which obtains regarding the profession is due to the flatly contradictory evidence which we find given by opposing parties in Court cases. We must allow for differences of opinion, but very often we find that such evidence is a deliberate attempt to make the weaker cause appear the better reason, and though a man by this may gain momentary kudos from a certain section of the public, it reacts seriously on the

integrity of the profession as a whole. The perfunctory way in which the examination of horses for soundness is sometimes carried out is another contributory cause. The breeder has given the veterinary surgeon his chance, and looks to him for guidance in this important matter, and it is up to the veterinary profession to make every effort to carry out the work uniformly, and in the most efficient manner possible.

Some may take a pessimistic view of the future in view of the increased number of motor cars, and the advent of the motor-tractor as a likely permanent agri. fession.

cultural implement; but while we have these to reckon with, the value of the live-stock in the country is rapidly increasing, and I predict will never return to anything like pre-war value. This naturally means that more care and attention will be given to live stock, and thus will give a wider sphere of activity to the practitioner.

There are other fields which I need not mention will

yet be opened up for the veterinary surgeon, and there are many duties which ought to be carried out by us which are at present being placed in the hands of men who have no qualifications for the type of work that they are called on to do. This is particularly so in connection with the Public Health services, and with the carrying out of the Orders under the Contagious Diseases of Animals Acts. I do not wish to discuss the position of the lay inspector, but I must say that his position and power is derogatory to the best interests of the veteri-

nary profession.

Organisation is a prime necessity in every type of reform, and we can no longer rest on our oars and look with apathy and indifference on the status of the profession. The Societies should give a lead to "the powers that be" as to what our future requirements are. The war has taught us many things, and the nation has partly awakened to its real needs. The Right Hon. Robert Munro, in the introduction to his first issue of the "Board of Agriculture Journal," remarked that "Agriculture has a great future. The prevention and elimination of plant and animal diseases will be vigor-ously tackled. A new outlook has been compelled by the war." A great attempt will be made to stimulate and increase the number of live-stock of the best type, to markedly increase the productivity of the land by improved tillage, more extensive manuring, and a careful selection of the best quality of seeds. In the improvement of the live-stock and the preservation of its health, the veterinary profession must play an important rôle, and can only do so by making itself efficient. There will be much greater application of science to industries in general, and in this sphere there will be a greater

application of veterinary science to agriculture.

In the past the great majority of members of the profession have devoted their attention to clinical work, and as clinicians have served the nation well. They were driven to clinical work because of the paucity of posts in the other spheres of veterinary science. The net result has been that other branches of the science have been almost entirely neglected, and at the present time there is no calling which offers such a rich field, hitherto quite unexplored, to those who wish to carry out original investigations, and in which successful results would be of the greatest economic importance. Given financial opportunity to carry out such research, the members of the profession must see to it that the rising generation is fully equipped for the work, and I am afraid that although our education may have been sufficient for our needs in the past it will not be sufficient for our future requirements. The present curriculum will have to be considerably modified. It is desirable that there should be a higher standard of preliminary examination, and this is likely to follow on the re-contraction of the general educational system. It need not struction of the general educational system. It need not require a longer period of attendance at secondary schools, but the subjects taught to those who intend following certain professions should have a more distinct bearing on the work that the student has to do when he enters the College or University. No one will gainsay the usefulness, for example, of woodwork and gardening to those who are to follow certain pursuits, but, to those who intend to enter the higher branches of learning, the time spent on these subjects is practically lost. higher standard of preliminary examination would tend to level up the general educational standard of the pro-

The subjects to be taught within the College may be grouped under two heads. (1) The general scientific subjects which may be looked on as educational and training subjects. (2) Those which have a direct bearing on the professional work. For certain students more advanced training should be given in chemistry and zoology and a more extensive course in practical work; for many of the fields which lie open to the investigator will require a more extensive knowledge of both these subjects. The same is true of physiology. An extensive course of practical physiology, and of chemical physiology will be necessary for our future needs. Such a knowledge will be necessary to any investigator in the unexplored field of dietetics and animal nutrition, both of which are of great economic importance and the study of which lies in the domain of the veterinary surgeon. At the present time our domains in this quarter are being poached on by the pure chemist and by the medical physiologist. Had the veterinary student the same training in these fundamental scientific subjects as the medical or science students, it would be a very great boon to the profession, and for this additional reason it must be apparent that closer co-operation with the University would be a great advantage. A lectureship on zootechnique, such as exists in many Continental Colleges, would also be of great value in the veterinary curriculum.

The clinical teaching in the Colleges has been comparatively much more efficient, and in the past has fulfilled our requirements. Within recent years, however, the practical work available has been far short of that which is requisite, and is in great contrast to that in the Continental schools. Before the advent of the motor the clinique on horses at all the schools was sufficient for the needs of the student, but in recent years it has fallen rapidly to the extent of being quite deficient, whilst clinical work amongst cattle and the smaller farm animals is non-existent. Something must be done to rectify this. The student must be sent out with a sufficient ground work to enable him to guide the destinies of the farm animal, which in the future will be of such economic importance to the country. Greater attention should be paid to the examination of the healthy animal, for without a proper knowledge of physiological conditions, one cannot appreciate patho

logical conditions.

Money will have to be forthcoming to employ a much larger number of research workers, as there are many diseases which yet remain to be elucidated. The control and investigation of scheduled contagious diseases of animals are in the hands of the Board of Agriculture. Quite recently I had an opportunity of visiting the new experimental laboratory of the Board in Surrey. This is a magnificent tribute to the energy of Sir Stewart Stockman; and the splendidly equipped laboratories, and the provision for field experiments are such that we may confidently leave investigation of the contagious diseases of the country in the hands of the veterinary staff of the Board. They have already conferred an inestimable boon on cattle breeders through their work in perfecting vaccination against contagious abortion. Their results with swine fever serum, are also most encouraging.

There are many other conditions which need investigation. Let me mention the large number of diseases of young animals, of diseases of breeding stock, a better knowledge of the prevention and cure of which will be of immense value in the future development of agriculture. Breed Societies have already begun to realise this, and in the absence of State aid, the Clydesdale Horse Society have given a magnificent lead in devoting a considerable sum of money to an investigation into the disease of Joint-ill in foals. It is to the credit of the Board of Agriculture for Scotland that it should

have realised the importance of this work and supplemented the sum by a substantial grant. Certain diseases in sheep urgently await elucidation, as the annual losses to sheep owners and the nation are appalling.

In recent research there seems to have been a neglect

In recent research there seems to have been a neglect of the subject of pathology, and a tendency to devote too much attention to bacteriology. By some the latter subject seems to be considered the be-all and end-all of research into disease. We cannot afford to neglect the important subject of pathology, for the one is the handmaiden of the other. It is also all-important that field experiments should be carried out along with the work done in the laboratory. The one is the complement of the other. There the clinician can render valuable assistance to the research worker—and the benefits will be reciprocal, for the clinician will be kept in close touch with the new work and with any discovery or advance-

ment made by the research worker.

This lack of co-operation between the clinician and the pathologist in the past must remedied. The true tests of the results of laboratory experiments is their value in the clinical field. In speaking of the purely clinical side of veterinary science, one subject which in particular requires further development is that of surgery. I had the privilege of spending a few hours in the operating theatre in a hospital last week and of seeing several operations, and the gap which exists in the methods of technique between and veterinary surgery was most striking. One at once realises that that gap can never be completely bridged, and that extended abdominal surgery in the large domestic animals, for reasons that you are all familiar with, will always be limited; yet a great deal could be done to improve our operative technique. Perfect asepsis could be obtained in a far greater number of surgical operations than is the case at present. I have been recently able to show that it is possible to open a joint cavity, and to carry out the radical operation for umbilical hernia, both being followed by healing by first intention. I am quite sure that these results could be extended to other operations.

One realises the many disadvantages the general practitioner labours under, and for that reason I feel more and more the desirability of having a properly equipped Veterinary Hospital established in a centre like Aberdeen—as first suggested by our past President, Mr. Cumming. There are many major operations which require careful operative technique and strict aseptic precautions, which often cannot be obtained in the field. Many cases go wrong after operation owing to careless and unskilled attendants being left in charge of the patient. I am quite sure that the general practitioner has no more desire to be troubled with these operations than the medical practitioner has in the case of human patients. Such a hospital, I feel sure, would be of great assistance in giving facilities for surgical progress, and the net result would be an increased appreciation by the public of the profession as a whole.

You may consider that I have been rather too critical in my address, and too sweeping with my suggested reforms; but I feel that future needs will require them. Our motto is "Vis unita fortior," and now is the time to act up to our motto. Combined effort to obtain these needs should be made by the profession, and if we could be represented by a member of Parliament for the profession, as we are certainly entitled to be, that would be

the first step in the desired direction.

this, and in the absence of State aid, the Clydesdale Horse Society have given a magnificent lead in devoting a considerable sum of money to an investigation into the disease of Joint-ill in foals. It is to the credit of the Board of Agriculture for Scotland that it should it is should with the scientific world, by our behaviour towards

our clients and by our behaviour towards each other, particularly in connection with consultations. No one filly which showed a large tumour in the nasal cavity should place himself on a pinnacle and pretend that he has all the knowledge, but freely call in his neighbour

when in difficulty.

The position of our teaching schools as semi-private adventures is not at all satisfactory. The Irish Veterinary College is State supported, and he hoped to see the day when the other schools would also be State subsidised. The scientific teaching in the schools was fairly good, but the clinical side of the teaching was deplorably deficient. One learned how deficient such practical teaching was when he got an assistant fresh from the College. In most cases the student was utterly ignorant of the merest rudiments of everyday practice. This was a grave fault of the present teaching system which ought to be remedied.

He had great pleasure in proposing a hearty vote of thanks to Mr. Brown for his admirable and instructive

address.

Mr. McPherson, in supporting the motion, said the gist of the address was the raising of the status of the profession by a stiffer entrance examination, by a higher standard of scientific education, such as is to be obtained at the Universities. This would involve the parents of students in a much larger expenditure in the training of their sons as veterinary surgeons. He was quite certain, from his own experience, that veterinary surgeons were not so largely employed as they were at one time. This he accounted for by the abolition of small holdings and by the introduction of motor traction. It was very doubtful if the expense of additional education was warranted.

Mr. Cumming, in seconding the motion, said the last speaker was very pessimistic regarding the future of the profession. His experience was the very opposite. Veterinary surgeons had perhaps to cover more ground than they once did, but they were more and more being consulted in preventive medicine—a branch of the profession which should be instilled into the minds of the students during training. Veterinary surgeons, he found, were very conservative. They were too slow in calling in a neighbour for consultation, even though that neighbour were a specialist. We should be more friendly one with another, and have less jealousy towards each other. He was in favour of the affiliation of our schools with Universities inasmuch as it would give the veterinary surgeon of the future a higher social position and a more scientific education.

Another thing he would like to see was a well-equipped Veterinary Hospital in the North of Scotland. Breeders and veterinary surgeons should easily be able to finance the movement. He would like to see this idea taken up seriously after the war, and thought that this society should take the initiative. He did not mean that the institution was in any way to compete with local practitioners, but that cases would only be taken in on the recommendation of veterinary surgeons.

He had great pleasure in seconding the vote of thanks to Mr. Brown for his very educative and inspiring address. (Enthusiastically carried and awarded.)

Mr. Brown thanked the members for their apprecia-

tive remarks on his address.

PATHOLOGICAL SPECIMENS.

Mr. HEPBURN exhibited the rectum of a fat ox which was surrounded by a thickened tumour containing an abscess. He said the bullock was constantly straining and stretching himself, off his feed, and passing little or no fæces. He showed some swelling down the perineum and also in the scrotum. On rectal examination the tumefaction and occlusion of the bowel was easily diagnosed. The ox being fat was slaughtered and the present specimen obtained.

He also showed part of the skull of a two-year-old and sinuses. When called to the case he found the left nostril blocked. He trephined the nasal cavity, but found it completely blocked with a fleshy, cheesy substance. He removed part of the tumour and part of the turbinated bone, and gave a little temporary relief. He also trephined the frontal and maxillary sinuses, and found them likewise blocked with the same material. He was unable to give further relief; a general septicæmia followed, and the animal was killed by the owner.

Mr. Cumming, remarking on the case of rectal tumour, related a rather peculiar case he had recently seen. On a Tuesday the store stock on a farm had been out for exercise. A yearling bullock was seen to be riding on a yearling heifer. On the Friday following he was called to see the heifer which was showing colicy pains, passing no fæces, and was sweating and straining. He prescribed a laxative, but next day there was no movement of bowels. He gave her another day and then killed her, as there was no improvement. He found on post-mortem a slight staining of the flesh within the pelvis, and the rectum completely severed as if cut with a knife. The severed ends being a considerable distance apart accounted for the fact that no fæces were being passed.

Mr. Brown, commenting on Mr. Hepburn's cases, said the disease of the sinuses of filly looked like necrosis of the bones of face, probably caused by infection from some previous disease-strangles or influenza.

The abscess and tumour in rectum of ox was also probably the result of a general infection. If the animal had been a lean one, it would have been admissible to open the abscess per rectum.

Mr. Howie stated that two or three times he had seen cases of rectal abscesses in colts as a sequel to castration. These he had tapped with an ordinary cattle-size trocar and cannula and had no further trouble.

Mr. Drennan related the history of a case of persistent colic in a foal. He gave repeated doses of laxatives and sedatives which gave temporary relief, but the pain always recurred. He then gave repeated doses of cod-liver oil, worm medicine, and sedatives, but the foal never picked up. Its membranes became highly congested; it gradually lost condition, and died. Postmortem revealed adhesion of the whole of the contents of the abdomen, probably the result of peritonitis.

For next meeting, Mr. Drennan promised to introduce

some subject for discussion.

A hearty vote of thanks to Mr. Brown for his address and for presiding terminated a highly enjoyable, meeting.

The members thereafter lunched together at the Athenaum Hotel.

GEORGE HOWIE, Hon. Sec.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918 :-

A. S. Adams, Dursley	£1	1	0	
Anonymous, per J. F. Rees,				
Carmarthen	1	0	0	
L. A. Auchterlonie, Capt. A.v.c.	1	1	0	
F. W. Barling, Hereford	1	1	0	
A. Broad, Shepherd's Bush, W.	1	1	0	
J. N. Cooper, Capt. A.v.c.	1	1	0	
P. W. Creagh, Fermoy	1	1	0	
Capt. J. T. Edwards, R.V.C., London	1	1	0	
J. C. Deville, Uttoxeter	1	1	0	

A. N. Foster, Major A.V.C.	1	1	0
G. Garnett, Hove	1	1	0
P. J. Harris, LtCol. A.V.C.	1	1	0
S. J. Hewitt, Warrington (1916, '17, '18)	3	3	0
A. Hodgins, Major A.v.C., D.S.O.	1	0	0
J. T. Holmes, Bourne	1	1	0
R. Hughes, Oswestry	1	1	0
J. J. R. Jackson, Bd. of Agric.,			
Whitehall	1	1	0
R. W. Knowles, Wisbech	1	1	0
W. S. Lamont, Cookstown	1	1	0
K. A. Miles, Lieut. A.v.c.	1	1	0
F. W. Pawlett, Capt. A.v.c.	1	1	0
W. Sewell, Capt. A.v.c.	1	1	0
F. J. Shearman, Capt. A.v.c. (1914-18)	5	5	0
C. W. B. Sikes, Major A.v.c.	1	1	0
H. W. Stevens, Capt. A.v.c.	1	1	0
W. Stothert, Major A.v.c., (1917-1921)	5	5	0
M. C. Tailby, Birmingham	1	1	0
J. Tainsh, Grimsby	1	1	0
J. Urmson, Bolton	1	1	0
R. Ward, Manchester	1	1	0
E. W. Williams, Dolgelly	1	1	0
R. W. Williams, Major A.V.C.	1	1	0
J. H. Wynne, Denbigh	1	1	0
Previously acknowledged £	506	1	0
£	551	2	0

Personal.

GAIGER.—At Strathview Gardens, Bearsden, Dumbartonshire, on the 13th February, to Prof. and Mrs. Gaiger—a daughter.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Feb. 15.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lieuts. to be temp. Capts.:—S. Littler (Jan. 27); W. E. Blackwell (Feb. 1).

To be temp. Lieuts.:—W. Walsh, W. E. Barry, A. H. Morris (Feb. 1).

To be Lieuts. (on prob.):—H. C. Driver, J. D. Haywood (Jan. 16).

ELECTION OF COUNCIL, ETC.

The list of candidates for seats at the Council of the R.C.V.S. has been published. Many of us know little of them, and for our information, their qualifications as candidates and the fact whether they do or do not keep a forge should be stated.

New blood is required in the Council so that we may be rid of those members given to "wind," also of the blacksmith or forge-keeping element.

Then possibly the profession may attain to something of the dignity much spoken of and longed for, but which will never be attained until divorce takes place between veterinary surgery and medicine and the forge. The practice of horse-shoeing may safely be left in the hands of the Worshipful Company of Farriers.

"Ne sutor supram crepidam."

18th February, "KIRBY BELERS,"

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.			
		Out- Ani- breaks mals.	Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.			
GT. BRITAIN.	eek en	ded Feb	. 16	9	9					171	329	24	10	3
Corresponding week in	{	1917 1916 1915		18 16 9	20 17 11	1	24	1	6	85 72	194 160	28 8 4	31 73 87	7 214 354
Total for 7 weeks	, 1918			50	58			2	3	1073	2099	150	106	33
Corresponding period in	{	1917 1916 1915		102 92 124	109 95 140	1	24	10 5	7 36 8	609 645	1301 1685	231 117 26	265 541 562	91 1694 2416

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, Feb. 19, 1918

† Counties affected, animals attacked:

Excluding outbreaks in army horses.

IRELAND.	Week ende	d Feb	9				 	Outbreaks 3	16	4.0	12
Corresponding	Week in {	1917 1916				 :::	 	2	15 15	3 3	36 17
		1915				 	 	2	23		16
Total for 6 wee	ks, 1918	. 1017	•••			 	 	24	74	1	1
Corresponding	period in {	1917 1916 1915		1	5	 	 	6 11 7	92 100 92	19 21 20	126 54 115

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 11, 1918.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

Diseased Cow-Prosecution at Chichester.

William Reed, of West Dean, was summoned at Chichester City Bench on Saturday, Jan. 26, for taking to Chichester Cattle Market on 16th January a cow affected—with Johne's disease, as well as tuberculosis. There was also a summons against his employer, Charles Thomas Coaker, farmer, of Norton, Aldingbourne, for causing the cow to be brought to the market.

causing the cow to be brought to the market.

Mr. J. W. Loader Cooper, Town Clerk, appeared to
prosecute, and Mr. E. B. Wannop represented the

defendant.

Mr. Cooper said the proceedings were taken under Section 12 of the Cattle Market Bye-laws. When the animal was slaughtered it was found to be so bad that it

had to be buried.

William Hopkins, superintendent of Chichester Cattle Market, said that on the 16th January his attention was called to a cow in Messrs. Stride's Market. The cow was in a weak condition and totally unfit to be exposed for sale. When witness spoke to defendant about it he said he would send it to Mr. Habins to be slaughtered. The cow was unable to walk up into the float, it being too weak in the hind-quarters, and it had to be assisted into the vehicle. The animal was in a very poor condition indeed; there was nothing on the frame; only the hide covering the bones. He told Mr. Coaker the result of the post-mortem examination, and he replied: "Perhaps I ought not to have sent it to market." Witness said he had got to do his duty.

Witness said he had got to do his duty.

Mr. J. William Pritchard, M.R.C.V.S., Veterinary Inspector West Sussex County Council, who was in Chichester Market on the day in question inspecting, said the cow, a white roan one, was very emaciated and exhausted, and not fit to be exposed in a market. He made a post-mortem examination and found a complete absence of fat and very little muscular tissue in the carcase. The cow had been affected as stated and the tuberculosis was shown by a large abscess on the lung, the pulmonary glands being also affected. It was not fit to be exposed for sale for human consumption.

Corroborative evidence was given by Mr. Chas. Forster, Chairman of the Cattle Market Committee; Mr. William Dawtrey, M.R.C.V.S., and Fred. Chas. Bushby, slaughterman.

Mr. E. B. Wannop submitted that he had no case to answer. Before a person could be brought in under the Section there must be guilty knowledge on his part, or at all events there must be some reason for his knowing not that the cow was weak and emaciated, but that it was unwholesome or diseased when it was brought in. That he contended had not been shown by the evidence of the experts. Mr. Coaker took entire responsibility for his man. He was under the impression that he had no right to sell any cattle without sending it into the market to be graded.

After the Bench had deliberated in private, the Mayor said the Magistrates were advised by their Clerk that guilty knowledge was not necessary in that case, therefore they had come to the conclusion that Mr. Wannep

had a case to answer.

Mr. Wannop intimated that he had explained the

facts and had no evidence to call.

The Bench fined Coaker £2, and Reed 10s., and allowed 10s. 6d. for each of the veterinary surgeons.—

Southern Weekly News.

[The correspondent who sends us the foregoing says in his note that "owners of cattle ('screws' included) are under the impression that all beasts for disposal must be sent to market, under Cattle Sales Order 1917." He adds:—"I am asked what to do with such animals—a question I am not inclined to answer."]

Veterinary Societies-Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. H. Barrow, M.R.O.v.S., Ireby, Carlisle

4on. Sec: Mr. R. Craig Robinson, M.R.O.v.S., Carlisle

Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S. Hon. Sec. Mr. John S. Keane, 11 Falkland Mansions, Kelvinside

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VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1547.

MARCH 2, 1918.

VOL. XXX.

LOCAL DISEASES.

Many animal diseases are distinctly local in their occurrence—their incidence is confined to certain countries or districts, presumably because it is only there that the factors producing them are to be found. On that account they hardly receive sufficient notice from those who practise outside their radius, and never expect to have to deal with them. They deserve more general attention; and last week descriptions of two which appear to do so in

a rather special degree appeared in our pages.

The first was a foreign abstract concerning an infectious broncho-pneumonia seen among German army horses in Belgium, but never in Germany. Its etiology is unknown; and that it may be a secondary infection of influenza or strangles by some microbe of local distribution seems a very probable hypothesis. We have not heard whether it has appeared among English army horses, but if not, it may yet do so; and its transmission to other countries is possible now, and will be more so in That fact, and its long and dubious the future. course, and high mortality under ordinary symptomatic treatment, combine to render it important. Some English veterinarians may yet be glad to have heard of the simple and inexpensive treatment by which the Germans have succeeded in so greatly reducing its mortality.

The second was the long and careful description by Capt. John Robson, A.v.c., of filariasis of the withers amongst horses in Western Australia. The most necessary thing here is a sufficiently thorough examination of the parasite by an expert helminthologist. Judging from the gravity of the lesions it often causes, the probability is that it will be found to be a new species. Two nematode parasites of equine fibrous tissue, formerly confused but now regarded as distinct species, are already known; but this one appears to have graver effects than either of those. The great improbabilty of its transmissibility renders it most unlikely that this disease will ever become established here, but it is quite possible that we may import isolated cases : and that is one reason why it is well for us to know that such an affection has been observed, and where. And there are other reasons which render it the duty of clinicians who observe these peculiar local diseases to describe them.

Of course, there is the broad idealistic reasonthe necessity that every obscure by-path in veterinary science and practice should be laid open before the whole profession, and the obligation that rests upon all of us to assist in the process when observations could be made in the Nature study classes

entity, no one can say whether it is peculiar to the district in which it was first distinguished, or, if it is, whether it will remain so. If contagious, it may spread far by contagion. If not, the causes producing it may come into action elsewhere. In either case, the disease may already exist unrecognised in many places remote from that in which it was first studied. Veterinary history is full of records of diseases that have been first clearly recognised and studied in one country, perhaps supposed for a time to be confined to that country, and then discovered to be existing unrecognised elsewhere. Often, though not always, the differentiation and description of the disease in one country has been the actual cause of its recognition in others. When Bang, at a gathering of English veterinary surgeons, described Johne's disease as he had seen it in Denmark, many men present were certain that they had already seen the same condition in England, and several at once stated that belief. We all know how widely disseminated in England and in many other countries Johne's disease has since been recognised to be. Whoever first differentiates a disease existing in one country or district, even though it may appear at first sight to be local, and due to strictly local conditions, may be on the brink of a discovery of much wider import. His duty is to publish his first clearly ascertained results to the whole profession, and place others in a position to judge of their value. Clinical reporting is always a duty, even in the case of diseases already well recognised. It is a much more peremptory duty in the case of a disease which the clinician observing it can himself recognise as a distinct entity, but which he knows is not regarded as such by the profession generally.

MICE AND MOULDS—THEIR RELATION TO PARALYSIS AND DEATH IN HORSES.

In the course of an address delivered before the members of the Murray Bridge Branch of the Agricultural Bureau, the Veterinary Lecturer, (Mr. F. E. Place, B.Sc., M.R.A.S.E., B.V.Sc., M.R.C.V.S.) referred to the association of mice and moulds in hay and chaff, and the resultant sickness and death amongst horses.

It has been stated, the lecturer said, that earlier invasions of mice in South Australia had cleared off; but did all the mice clear off? So far as he could ascertain, there was no definite answer to the query how long mice lived. That was of economic importance, for upon the term of life depended the possibility of getting rid of them. It would be an act of national importance if we can. This alone ought to be sufficient, but this of the schools by keeping a few mice in cages, and is not all. When one of these local diseases is first noting their age from birth to death. The figures would definitely recognised as an independent pathological not be infallible, because of the artificial conditions of

living, but they would be of value. He had known white mice, kept as controls of experiments in feeding, live to three years; but those were exceptions; apparently, the general term is less than a year. Such cases arouse the uncomfortable idea that under favourable conditions, such as have existed this year, enough strong and hearty individuals would survive to produce an-

"I have often heard it asked, 'How do you account for there being no young mice in this visitation? All we

see are grown.'
"The answer lies in the latter part of the question; all we see are grown because nesting conditions are so ideal that young ones need never come to light till suffi-

ciently big to fend for themselves.

"I feel somewhat alarmed when I look back upon the few pairs of rabbits, the ancestors of the myriads of today, and then think of the numbers of lusty pairs of mice capable of reproducing their kind. I feel alarmed, not so much on account of our inability to cope with them, as because of our disinclination to exert ourselves. Several of the methods suggested for their destruction are quite satisfactory, such as the double fence, the catchpit tins, and so forth, because of the natural habit of the mice to come out at night and return to shelter before dawn. But vigilance must be exercised that no gangways are left, and a single straw will suffice for

passage.
"It seems to me that our happy-go-lucky way of throwing down dunnage and building our stacks without protection is inviting disaster. Remember the pride with which the farmer in the old country looked at his five-year-old stack, when private banks were not always reliable, and the envy of his less fortunate neighbours, who had to thresh out in the second winter. Every stack was built on a mouse-proof staddle or brandreth. Times were not good enough to run risks of having all the wheat destroyed. I am told that we cannot do that here, but I cannot see why. Year after year the stacks are built in the same places on the wharf or in the station yard, and the provision of mouse-proof staging would soon be repaid in the wheat saved.

Again, we do little because we hope Nature will wipe out the trouble, by mouse plague or some other deadly act. I can scarcely credit Nature building up a mouse population for the fun of wiping it out with ringworm or dysentry. According to the immutable law, the weakest will go to the wall, and in their fall drag down those around them, but her plan is still the survival of the fittest, and in that lies our danger. We have seen ancient kingdoms fall beneath the pricking of mosquitoes, and the multiplication of mice may mean to us a fight against disease and death. Already it has been hinted in a neighbouring State that the germs of cerebrospinal meningitis have been freely isolated from dead mice, and there is no reason why they should not bethe mouse is well known to be an experimental carrier

of the disease.
"We ourselves see them daily victims of a loathsome skin disease, which we call mouse plague, that eats their substance, blinds them, and destroys them, and when we see a notice from the Board of Health that favus is a notifiable disease, we probably do not realise that human favus and mouse plague are one and the same disease. We know how handling infected material produces sores on ourselves, which we call mouse disease. plague; but we do not always know that a mould, Achorion schoenleinii, is the common cause of both; just an ordinary mould, such as one scrapes off cheese, but growing so virulently on the young mouse's head that it entirely destroys hard tissues-bone: growing so well upon our arms that large itching sores result. 'But why make such a fuss about a ringworm?' some may say. Another man who has lost all his horses will say, 'Why do not scientists hurry up and show us why ringworm

on a mouse's head is closely connected with the death of a paralysed horse?'

"Another form of mould growth is well known to us to be dangerous, namely, mushrooms, and we all take care to pick them over and use only those we know to be safe; and yet, with all our care, a friend may eat some and become quite ill while we do not feel any bad effect, for in them all is a poison, muscarin, deadly to some as snake venom, and harmless to others, as the same snake venom would be if swallowed. So that moulds do seem to have some practical bearing on the paralytic deaths of horses.

Experiments have been carried out with one class of mould which affects grain in Italy, Monascus purpureus, and sufficient evidence has been collected to show that it will produce paralytic symptoms both in man and beast, and the working of mice in stacks has a very practical bearing on the ease with which many moulds will grow in haystacks, owing to the opening up of airways in the stacks and the deposit of moisture in the

form of mouse urine.
"It is of practical importance to notice that old haystacks that had settled before the mice arrived open out quite sweet, while those that were open enough to allow them to traverse their interiors open out as muck.

"Often the question is put to me, 'Why do horses do horses do better on smutty fodder than upon clean?' The reason is that all these moulds generate poisons which stimulate the liver, and when it is stimulated the

system seems to do well.

Nature has a splendid safeguard in all animals—that food in the intestinal tract is not inside the animal, from a utility point of view, until it has passed through the layer of cells which lines that tract, and as long as they are intact it is a difficult matter to poison. Experimentally, large doses of poison have been confined in the horse's stomach and no absorption has taken place; but once it has been allowed to pass into the bowels death has occurred in a few hours. This has been done with mineral poisons, like arsenic; but the poisons contained in moulds are more complicated, and frequently are quite harmless till they come in contact with some digestive juice or some gas eliminated in the process of digestion, when suddenly they split up into most virulent poisons, which, being absorbed in the blood stream, affect the brain and spinal cord. Many vegetable substances are known to do this—for instance, growing sorghum, the poison known as wourali, and so forth.

"Unfortunately for the horse, the lining of his digestive tract is not always intact. In the early part of his stomach, worms, Habronema equi, form abscesses; near the exit bots, the larvæ of Gastrophilus equi, make numerous minute punctures; in the small bowels the long round worms, Ascaris megalocephala, constantly utilise the food for their own purposes and pass out the excrement, which contains an irritant poison, ascarin; while in the large bowels, both the thousands of small blood worms, Sclerostoma tetracanthum, and the hundreds of large blood worms, Sclerostoma equinum, are not only utilising the blood in the same way, but are actually piercing the lining and coats of the bowels in myriads of places, ond it is when this is done that the poisoning cases are most frequently reported.

"The muck so frequently fed to horses under the name of chaff contains not only poisonous moulds already mentioned, but has another marked disadvantage-it is much harder of digestion than good-quality stuff, and often uses up more energy in the endeavour to extract nutriment from it than its use might appear to

indicate.

"So it would appear that the paralytic poisoning about which one hears so much nowadays is due to a combination of factors, which stand to one another in the following relationship and order of importance:-

"First, there is a gradual lowering of the horse's resistive power brought about by work, climatic conditions, and especially by inferior and infected food, which, on account of its inferiority, fails to build up worn-out tissues, and by its mouldiness actually poisons.

"Secondly, this inferiority is due to a great extent to the working of mice, who actually infect it with dangerous moulds, and bring about conditions favourable to the growth of others, and damage and destroy its

feeding properties.

"Thirdly, the damage done to the coats of the stomach and intestines by parasites such as bots and worms forms a ready way for the poisons to reach the blood stream, while the virulence of such poisonous action is increased by the secretion of very virulent poisons, by the parasites themselves, such as cestrotoxin

by bots in quantity, ascarin and similar ones by worms.

Symptoms. "If we accept this line of reasoning, we must see that prevention is what we must aim at rather than treatment. The symptoms are fairly well known to most horse owners, and generally several horses are attacked simultaneously. The affected animal drivels at the mouth, and has a difficulty in swallowing; he sways in the hindquarters, and has little control of his movements; the fetlocks knuckle over; a few hours later he cannot rise, though he can move about if helped up, and the tongue hangs out; appetite, and dung and urine are normal, though the last may be retained when the animal remains down for many hours.

TREATMENT.

"Treatment is unsatisfactory, because the disease is progressive; but the following lines have met with as much success as most:—Sling, but in doing so do not hang up like a golden fleece—only support with the body cloth, so that the animal can use its feet and sit down in the breeching, if desired. A crush pen, with a pole behind to sit on, and the body cloth stretched between its sides, is more satisfactory than a hanging sling; but if the latter has to be used, spread the side

bars by a swingletree.

"Give a good purgative, such as a six dram aloes ball, and if the appetite continues, a tablespoon of Fowler's solution of arsenic two or three times a day, and a teaspoon of sulphate of quinine two or three times a day. If food is not taken then, these should be made into a ball with pollard and molasses and put into the mouth, or, better, down the throat. The arsenic and quinine may have to be continued for several weeks, but if such is the case, another physic ball should be given in the third week. As recovery sets in the arsenic and quinine may be gradually reduced, and their place taken by 20 drops of tr. nux vomica. The loins, legs, and neck should be frequently and well rubbed by hand or with a mild liniment, and whenever possible, exercise should be given at least twice a day. When bowels and bladder are irregular, they must be emptied from time to time, and an ounce of photographer's hypo. in the drinking water morning and evening on alternate days will assist in keeping them right.

PREVENTION.

"Prevention is simple. It consists in avoiding the combination of factors that result in the disease, and I know several farms in the North, right in the heart of districts where horses are being lost wholesale, that escape scot free because the farmers are horse masters, and in that fact lies the key to the whole situation. Uuless a man apply the rudiments of horse mastership he must put up with losses. The essentials are-steady regular work, regular feeding and watering with good quality feed sufficient for the working conditions, varied by the addition of oats, barley, or bran, or, better, a mixtue of the three.

"If coats are rough, and the horses out of sorts, a hot bran mash and a five dram physic ball on the Saturday night, and a little sulphur, say, a dessertspoon in the feed once a day as a regular thing for a week or so. If bots or worms are known to exist, treat them as suggested in the Agricultural Department's leaflets on 'Bots' and 'Blood worms.'

"As to mice; horses are not carnivorous, and they would much appreciate having the mice shaken out of the hay before it is passed through the chaffcutter, even if such a proceeding does entail a little more trouble; it is worth it in any case, for it diminishes risk of disease,

and one horse is worth many mice.
"I have several times lately pointed out that the use of infected hay is a very risky proceeding, and by practically every post I get enquiries as to how it should be treated. I feel very much inclined to run off a thousand copies or so, and say, 'By a firestick'; but such sound advice is looked upon as lacking in courtesy, and I have to send a makeshift instead. Sun and fresh air will do a great deal to minimise the effects of the mice and the moulds, and hay should be opened out and spread before cutting for a few hours. Salt at the rate of 5 lb to 7 lb per ton, or sulphur at a little less, will help to ward off trouble; but from observations I have made for the last few months, I am inclined to think that slaked lime, at the rate of 20 lb per ton, is the best; not only does it shrivel the moulds, but it is objectionable to the worms, and is slightly tonic and digestive for the horse. I notice that a similar dressing has been recently advocated in the case of spoiled wheat, thus supporting my own view.

But none of these palliatives is as good as the avoidance of the muck, which is quite unfit for horse feed, and which is at the bottom of the mischief in most cases."—Journal of Agriculture of South Australia.

EUSOL: HYPOCHLOROUS ACID.

To the Editor of "The Veterinary Record."

Dear Sir,-May I draw your attention to a slight printer's error in your report of the Royal Counties Veterinary Medical Association meeting which appeared in Feb. 16th publication of The Record.

On line 40, column 1, page 340, 5%, should read 5%. It is only a slight error on paper and of no relative importance; for if the materials be mixed in the quantities given a solution of the correct strength will be obtained. It might, however, if not pointed out, lead to empty

criticism.

As I have the pen in my hand I am adding a note which you may think worth publishing. The preparation of Hypochlorous acid solution, as advocated in the above-mentioned report was introduced by Lorrain Smith, Drennan, Rettie, and Campbell—Brit: Med: Journal, No. 2847, 24th July, 1915, pp. 129-136. It is a completely satisfactory method where large quantities of the solution are being constantly used in hospitals or a large surgical clinic. In the Brit: Med. Journal, No. 2960, 22nd Sept., 1917, pp. 386-387, Lorrain Smith, James Ritchie, and J. Rettie describe a method whereby Eusol can be conveniently prepared for immediate use.

"Take 135 c.c. of the B.P. Liquor calcis chlorinatæ, dilute with water to 1 litre, add 10 grammes of Boric acid, and shake up until dissolved. The solution remains clear, and without further treatment is ready for

The equivalent to this is: -25 drachms of the B.P. Liquor calcis chlorinatæ, dilute with 1 pint of water, (with 1 pint of water, not with water to 1 pint: the figures being more level thus), add 12 drachms of Boric acid.

Liquor calcis chlorinatæ is prepared by dissolving 15 ounces of Chlorinated lime in one gallon of water: it should be kept in a well sealed jar.

I am, yours faithfully, E. Brayley Reynolds, Woolwich, Feb. 20. Capt. A.v.c.

VICTORIA VETERINARY BENEVOLENT FUND.

A meeting of the Council of the Fund was held at 10 A meeting of the Council of the Fund was held at 10 Red Lion Square, London, on January 3rd, when the following members were present:—Mr. S. H. Slocock, President, in the Chair; Messrs. G. A. Banham, W. F. Barrett; Maj. J. W. Brittlebank; Messrs. F. W. Garnett, F. L. Gooch, P. J. Howard, H. A. MacCormack; Sir J. M'Fadyean, Sir S. Stockman; Messrs. R. C. Trigger, E. A. West; Prof. G. H. Wooldridge; Messrs. P. J. L. Kelland and F. Bullock, Hon. Secs.

The PRESIDENT, Mr. Slocock, referred to the death of one of the members of the Council. Professor Mettam.

one of the members of the Council, Professor Mettam, and recalled the fact that he had been present at the previous meeting, and had taken, as he always did, a great interest in the work of the Fund. On the President's motion it was resolved that a vote of condolence be passed to Mrs. Mettam and family on the sad bereavement which had overtaken them. The motion was passed in silence, all present standing.

The minutes of the previous meeting, having been printed and published, were taken as read, and confirmed.

HON. SECRETARIES' REPORT, JANUARY, 1918.

We regret to have to report that since the last meeting two of our recipients have died, namely, Mrs. Young, of Preston, and Mrs. Grant, of Ramsgate. Mrs. Young had only received help from the Fund since April, 1917. She died of Pulmonary tuberculosis, and leaves a son, We have ascertained that the boy has gone to live with relatives who will take charge of him. Mrs. Grant had been in receipt of assistance since 1907. She was 90 years of age.

Our time during the quarter has been mostly occupied in repeated efforts to get in subscriptions from members in arrear, but twenty-five subscriptions for 1917 still remain unpaid, in addition to a considerable number for previous years.

Additional subscriptions and special donations have

been received di	urir	ng ti	ne qu	arter as follows ;—						
New Subsci	ribe	rs.		Donations.						
R. C. Baxter	£1	1	0	R. C. Trigger £2	2	0				
D. Campbell	1	1	0	T. S. Price 5	0	0				
W. J. Cade	1	1	0	A former	U	0				
H. B. Hiles	1	1	0	recipient 5	0	0				
Glyn Lloyd	1	1	0	J. Clarkson 1	1	Õ				
J. C. Munby	1	1	0	W. Packman 2	2	0				
D. E. Orr		10	6	A. A. Higgins 5	ō	0				
R. Porteous	1	1	0	J.R. Hamilton 1	0	0				
R. Simpson		10	6	London	•					
J. Smith	2	2	0	Students 12	5	0				
F. M. Skues		10	6	Dublin		()				
P. J. Walsh		10	6	Students 2	1	0				
Col. J. Farmer	1	0	0		-	U				

A very gratifying subscription was that from the Students of the Royal Veterinary College, London, and also the smaller one from the Students of the Dublin College

The following letter accompanied the donation of £5

from a former recipient :-

"Some years ago I was in great trouble, and your Society was good enough to grant me some financial then my circumstances have somewhat improved, though recipient to become self-supportsng. It was resolved I am still not at all well off, but I feel I should like to that the application be acceded to.

make a small donation to your Christmas Fund, in the hope that you may thereby be able to help some other poor woman in the same trouble. I send you £5 in Treasury notes, registered post, and shall be glad to hear it reaches you safely."

The amount received in subscriptions and donations during the year just ended is £481, of which £96 is in donations; and in addition the sum of £45 10s. has been received from the Boltons Cinema, with authority to use it for current relief instead of treating it as donations, if so desired. The President and Trustees agreed to the investment of £100 in War Bonds, and this was done. There remains in the bank a balance of £60 16s. 8d.

During the year a considerable sum has been spent on printing, postage, and stationery. This is due to the change of secretaryship and to the special appeal issued to the whole of the profession. On the other hand the the total revenue from subscriptions and donations for the year amounts to £527, which is £114 in excess of that for 1916. The amount received from dividends was £137 13s. 6d., an increase of £7 13s. 6d. on the previous year. The funds of the Society are thus in a somewhat better position to meet any additional demands

which may arise during the time of general distress through which we are passing.

During the month of October we were informed that a daughter of Mrs. Womack (Case 26) was suffering from cancer, and that her mother had had to make special arrangements for her care. After consultation with the President we decided to increase the grant made in this case to 10s. per week. We trust the Council will confirm this action.

Special grants of £1 have been made at Christmas time to three of the most deserving cases, namely, Mrs. Shivas, Mrs. Ryan, and Mrs. Gibson, and the last named has been provided with an abdominal belt of which she was in urgent need. The total extra expenditure of £4 10s. requires the approval of the Counci

It has not been thought advisable to call in the receipts from collecting boxes, as they were only issued a short time before the end of the year. We shall be glad to know of any members who are willing to collect money for the Fund by means of these boxes.

We recommend that the following gentlemen should be elected Life Members, each of them having at one time or another contributed at least £10 10s. to the Fund :—Mr. A. Blake, Rangoon; Capt. O. Dixon, Mr. H. Llewellyn Jones, Mr. S. H. Slocock.

RELIEF.

Particulars concerning the present circumstances of all the recipients of grants were laid before the Council, and the grants made were as follows:

Cases 5, 10, 11, 16, 18, 19, 20, 22, 23, and 24. The were renewed at the same amount as previously. Cases 1 and 12. These grants were discontinued.

Case 4. Grant was reduced from 10/- to 7/6 per week. Case 7. Grant was reduced from 10/- to 5/- per week. Cases 14 and 34. Grants were increased from 5/- to 7/6 per week.

Cases 21 and 32. Grants were increased from 7/6 to 10/- per week.

Case 20. Grant was increased from 5/- to 10/- per wk. An application was received from Mrs. Farr with respect to her second son, William Sydney; and it was resolved that an application be submitted for the admission of this boy to the London Orphan School, and that the work of canvassing for votes should be under-

taken by the Society.

New Cases. No. 29. This was an application for the renewal of a grant for six months, in order to enable the

No. 33. It was resolved that no grant be made in

this case.

No. 34. The President reported that in consultation with the Treasurer he had approved the payment of 5/per week in this case. It was resolved that the action of the President and Treasurer be approved, and that the grant be renewed at 7/6 per week for the current year.

No. 35. Widow, no means. It was resolved that a grant equivalent to 10/- per week be made in this case

for the current year.

No. 36. Widow. Husband died 17 years ago; no means. On the recommendation of Mr. P. J. Howard it was resolved that a grant of 7/6 per week be made in this case.

REVISION OF BYE-LAWS.

The following draft Bye-laws having been circulated were taken as read and approved.

1. The Society shall be called the Victoria Veterinary Benevolent Fund, and shall consist of Donors and Members.

2. The object of the Society shall be the relief of necessitous and deserving Members of the Royal College of Veterinary Surgeons, whether subscribers to the Fund or not, and of the necessitous and deserving members of their families.

3. The management shall be vested in a Council consisting of (a) Nominated Members, (b) Ex-officio

Members.

Nominated Members shall be :- One representative nominated by each of the subscribing Veterinary Medical Societies and Associations; two representatives nominated by the National Veterinary Benevolent and Mutual Defence Society; two representatives nominated by the Royal College of Veterinary Surgeons; five representatives of the members of the Society, to be elected at the Annual General Meeting.

Ex-officio Members shall be:—The President, Vice-Presidents, Trustees, Hon Treasurer, and Hon. Secre-

taries to the Fund.

The funds of the Society shall be derived from donations, bequests, and subscriptions. The minimum subscription for membership shall be ten shillings and sixpence per annum, and shall be due on the first of January in each year. A payment of ten guineas or upwards in one sum shall constitute Life Membership.

Life membership subscriptions and all legacies bequeathed to the Fund shall (unless the testators otherwise specify) be regarded as capital and invested. All donations and special contributions shall (unless the donors otherwise declare) be regarded as capital and

invested.

Investments shall be made in the names of three Trustees to be appointed by the Council, in any funds or securies for the time being by law authorised for inor vary such investments as they shall determine. The uninvested funds of the Society shall be kept in the name of the Society at the Bank selected by the

be paid into the Bank within three days after receipt

thereof.

All disbursements above two pounds shall be made by cheque signed by the President, Hon. Treasurer and

Hon. Secretary.

Any excess of income over expenditure at the end of each financial year may, at the discretion of the Council, be added to the invested funds, and be invested as provided for in this bye-law.

OFFICERS.

elected by the Council to be Trustees of the Fund, ad perty of the Society, may alter, suspend or repeal the

vitam aut culpam, and the funds of the Society when

tinvested shall be invested in their names.

Hon. Treasurer. The Hon. Treasurer appointed by the Council shall keep all books of account, and be responsible for the accuracy thereof. He shall prepare a list of new subscribers and submit the same to the Council at each quarterly meeting. In consultation with the President, he shall have power to make grants in urgent cases under Rule Two to any amount in any one case not exceeding five pounds.

Hon. Secretary. The Hon. Secretary appointed by the Council shall have charge of all papers and records connected with the Society, shall record all minutes of the proceedings of the Council and general meetings, conduct the correspondence, summon meetings, acknowledge the receipt of all the money paid to him as donations, subscriptions or otherwise, and shall be responsible for all cash received by him until paid into the bankers,

which must be within three days from receipt.

Any vacancy in the office of Trustee, Treasurer or Secretary shall be filled by the Council at the next succeeding meeting, or as soon as may be, provided that due notice of the vacancy is given on the notice convening the meeting at which the election is proposed to be

The Auditor, who shall be a chartered accountant, shall examine all accounts of receipt and payment, and shall prepare and sign the annual balance sheet to be submitted to the Council at the meeting immediately

prior to the annual general meeting.
7. Annual General Meeting. The annual general meeting of the Society shall be held in the month of June each year, on the day on which the annual general meeting of the Royal College of Veterinary Surgeons is held, and shall be called by advertisement in the Veterinary press at least fourteen days before the day fixed.

The order of business at the Annual General Meeting shall be:—Minutes of previous A.G.M.; Election of President: four Vice-Presidents: Auditor. Annual Report and Statement of Accounts. Nomination of five members of the Society to serve on the Council.

Every member shall have the power of voting on all questions properly brought before the general meeting of the Society, provided such member has paid his sub-scription for the current year.

8. On a requisition signed by at least ten members of the Society, the President shall direct the Secretary to call a Special General Meeting within fourteen days of the receipt of such requisition.

9. An Ordinary Meeting of Council shall be held within one month of the Annual General Meeting, and all other meetings of the Council shall be held as may be determined by the Council at such ordinary meeting.

In the absence of President and Vice-Presidents the Council shall elect one of its number present at the commencement of the meeting to act as Chairman vestment by Trustees, the Council to have power to sell pro tem. Three members of the Council shall form a

10. The Council shall have power to admit members, ame of the Society at the Bank selected by the engage officers and servants, appoint Secretary and Treasurer, remove the same, fix the rent and remuner-tion, if any, to be paid for offices and for servants respectively, make such orders and regulations for the management of the Society (not inconsistent with these rules) as they may deem expedient, direct the investment of, and control and distribute the funds, consider all applications for relief and decide the amount and mode of affording it, according to the circumstances of the case and person to be relieved; order payments on the account of the Society at the bankers, and generally conduct the business of the Society.

The Council shall and may make orders and rules and bye-laws for the regulations of the Council and for Trustees. Three members of the Society shall be the management of the estates, goods, effects and prosame and make new in their stead, as the Council may think expedient: Provided that notice of any motion for such suspension, repeal, alteration or new rules be given in the agenda of the Council meeting at which such motion is to be considered.

Wounds of Animals and Their Treatment. By R. HARRISON SMYTHE, M.R.C.V.S., Civil Veterinary Surgeon, attached a.v.c. Pp. xj+194, including index. Illustrated. Price 6/- net. (Baillière, Tindall, & Cox, 8 Henrietta Street, Covent Garden, London, W.C.)

Small and slight as this work is, many members will find it useful. It may best be described as a succint résumé of the general conditions governing the healing of wounds, the considerations which govern their treatment, and the practical application of these to the very various types of wounds commonly met with in practice. The opening chapters deal with the pathology of wounds. wound healing, wound infection, the general treatment of wounds, and their surgical treatment, including suturing and drainage. After a short chapter upon some complications and sequelæ of wounds, the main portion of the work begins. This consists of a series of chapters dealing with wounds of the different regions of the body, and the methods of treatment which the author has found most useful. The horse is the animal chiefly dealt with throughout, though some references are made to wounds of bovines, and of dogs and cats. A long chapter is devoted to fistulæ and sinuses; shorter ones to castration wounds, uterine and vaginal wounds, and compound fractures. Three other short chapters upon war wounds, vaccines in wound treatment, and dietetics and hygiene complete the volume.

The work can only be described as excellently done. It is well arranged, clearly written, and contains a remarkable amount of general and special information and suggestion in small space. The teaching is judicious blending of the old and the new; and the author may be congratulated upon the level judgment he shows with regard to such debateable questions as vaccine treatment for wounds, and the controversy between the aseptic and the antiseptic schools of surgery. There are a few points, such as the method of suturing wounds in the uterus, and the author's operative procedure for quittor one of the few operations that is described—which will be new to most readers; but, speaking generally, it must be admitted that the book does not contain much beyond what the general practitioner ought already to know. It does contain a good deal that practitioners are apt to forget, and there are many to whom its perusal would be helpful. In commending it to professionals it should, perhaps, be added that the treatment of the subject is too technical to make it of much use to non-professional readers. W. R. C.

Military appeal dismissed.

At Devon Appeal Tribunal at Exeter, on 15th Feb., the Military appealed against Charles Masson, 28, married, general service, a veterinary surgeon, of Torquay.

The Torquay Tribunal wrote that they considered it would be a calamity and would seriously endanger the food supply if Mr. Masson's services—which were of high national importance—were not retained for the care of horses and cattle, and especially cattle. The local tribunal gave conditional exemption to Mr. Masson, and called special attention to letter of the Royal College of Veterinary Surgeons in support of this decision.

The Military appealed on the ground that veterinary surgeons were urgently required in the army. No veterinary surgeon could be made to serve in the ranks or in

any other department of the Army Veterinary Corps if he were willing to take a commission in that Corps.

Capt, Stirling, Military representative, mentioned that the sole question was whether Mr. Masson could be spared for the army.

Mr. W. H. Reed, a member of the Tribunal: Is he sure of becoming a veterinary officer? Because we have had evidence of men being diverted to other employ-

ment who were sent into the army for specific work.

Capt. Stirling: There is no doubt he will get his commission in the Army Veterinary Corps if he joins

Mr. Masson said he had no doubt himself on that point. Replying to questions, he added that there was only one other veterinary surgeon in practice in Torquay. Respondent covered an area of 48 parishes, and travelled from a thousand to fifteen hundred miles a month. His work lay chiefly outside Torquay. Nine veterinary surgeons had joined up from his district since the war. He had asked Mr. Cawdle, of Torquay, to take up the work, but he replied that at his time of life it was impossible for him to come out of his retirement and do it.

The Clerk reported that a petition had been received with 150 signatures, asking that Mr. Masson's services

be retained.

The Military appeal was dismissed.

ARMY VETERINARY SERVICE.

Extracts from London Gazette.

WAR OFFICE, WHITEHALL, Feb. 22. REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Capt. J. D. Whitehead, F.R.C.v.s., to be actg. Maj. while comdg. a School of Farriery (Feb. 1).

To be temp. Lieut.: -D. G. Wishart (Feb. 8).

To be temp. Lieut.:—G. F. Banham (Feb. 10). Feb. 26.

Temp. Lieut. to be temp. Capt .: - J. T. Purcell (Feb. 13).

Lt.-Col. (temp. Col.) E. E. Martin, C.M.G., from a Dep. Dir. of Vety. Servs., to be Dep. Dir.-Gen. and to retain his temp. rank whilst so empld., vice Col. (temp. Brig.-Gen.) C. E. Nuthall, c.B. (Feb. 14).

SPECIAL RESERVE OF OFFICERS.

Lieuts. to be Capts.:-J. Leigh (Jan. 15); M. Farrelly (Feb. 1).

Temp. Qrmrs. and Hon. Lts., A.v.c., to be Hon. Capts.:— W. J. R. Gordon (Feb. 4); J. Garwood, C. Collingwood (Feb. 5); C. McPhail (Feb. 21).

CANADIAN A.V.C.

Feb. 25. Dep. Asst. Dir. of Vety. Servs.:—(Graded for purposes of pay as a Dep. Asst. Dir. of Ord. Servs.—Temp. Capt. (actg. Maj.) W. G. Stedman, from an Asst. Dir. Vet. Servs., and to retain his actg. rank whilst so empld. (Dec. 27, 1917) (substituted for the notification regarding this officer in the Gazette of Jan. 22).

TERRITORIAL FORCE, ARMY VETERINARY CORPS. Feb. 22.

Capt. D. R. C. Tennant to be actg. Maj. whilst holding appt. of A.D.V.S. (Dec. 18, 1917).

Maj. (temp. Lt.-Col.) A. E. Clarke, R. of O., relinquishes temp. rank of Lt.-Col. on alteration in posting (Dec. 18, 1917).

The A.V.C. Comforts Fund.

Dear Sir,—If you can possibly find space for enclosed letters and lists of subscribers' names in this week's issue of The Veterinary Record I should be very grateful, as I would desire to acknowledge as soon as possible in your columns, these most generous contribution for the A.V.C Comforts Fund, which have reached me through Colonel Olver and Colonel Holmes.

I would wish to express to those who have subscribed most warm appreciation for these kind donations, and remembrance of the needs of our A.V.C. men on active service. Also warm thanks are due to those officers who have taken the matter of "collecting" in hand for their kind interest and efforts.

I hope next week to forward further lists. I feel I must not trespass too much on your space this week if you are so good as to publish these letters at this eleventh hour's notice.—Yours truly,

ADELAIDE M. MOORE. 20 Parsifal Road, Hampstead, N.W. 6. Feb. 19th.

> Headquarters, Northern Army, H.D., Norwich, 12th February.

Dear Mrs. Moore, I am sending you a cheque for £54 6s. 6d. for the A.V.C. Comforts Fund, together with a list of subscribsrs.

As you will see, Major Green has taken a very keen

interest and has done very well.

I am sorry we could not send this earlier, but it has been difficult to get subscriptions in. Hoping the Fund is flourishing.—With kindest regards, yours sincerely, R. H. Holmes.

List of Subscriptions.

Bust of Susser of the see.			
per LtCol. E. D. Johnson, A.V.C., T.F.:-			
LtCol. E. D. Johnson	£1	1	0
Capt. L. A. F. Dawson, A.V.C. (T.F.)		15	0
Maj. T. H. Hobson, A.V.C. (T.F.)		10	0
Capt. G. B. Cooper, A.V.C. (T.F.)		10	6
Capt. J. Robertson, A.V.C. (T.F.)		10	0
Mr. G. E. Hamilton		11	0
Lieut. Baird, Remount Officer		10	0
A.V.C. Sergeants, 321st Brigade R.F.A		10	6
per Maj. R. L. Green, A.V.C. (T.F.):			
Subscriptions from various persons	9	17	()
Capt. P. J. O'Brien. A.V.C. (T.C.)		10	6
Mr. G. A. Harrison		10	6
Mr. R. Green		10	6
Capt. G. L. Harber, A.V.C. (T.F.)		10	0
Capt. R. H. H. Over, A.V.C. (T.F).		5	0
per Capt. G. C. Robertson, A.V.C. (T.F.)	11	12	0
per Capt. S. S. Forster, A.V.C. (T.F.)	10	5	0
per Capt. F. J. Moon, A.V.C. (T.F.)	7	15	0
per Mr. H. Race	3		0
per Mr. II. Itace	_	15	0
per O.C. 1/1st Welsh Mob. Vet. Section Mr. F. Gale	1	1	0
MILI I COMP	_		
	£53	6	6
LtCol. R. H. Holmes, C.M G., A.V.C.	1	0	0
Miss Boden	1	1	0
	£55	7	6

Montreal, January 22nd.

Dear Mrs. Moore, I am sending you herewith a draft for \$235.14, first instalment of subscriptions received from the Veterinary Officers of the British Remount Commission in this country in answer to an appeal from this office. There will be a few more to send later, but the majority are

now in and I send them on as I expect you will be glad of the money.

The VOs. serving with the B.R.C. in this country have heard a great deal of the good work done by the A.V.C. Comforts Fund, and many have expressed themselves as being delighted to have an opportunity of contributing their mites to such a deserving cause.

Each subscription has been acknowledged individually and the donors informed that receipt will doubtless be acknowledged in the usual way in professional papers at home. A list of the individual subscribers and the amount given by each is attached.

With all good wishes,—Yours sincerely,
A. OLVER, Lt.-Col. A.V.C.,
P.V.O, British Remount Commission.

Capt. J. J. Murison	\$10,00
Capt. R. C Duthie	5.00
Capt. F. B. McCallum	5.00
Capt. E. C. Winter	10.00
Capt. T. A. Connolly	5.00
Dr. J. F. Carson	10.00
Capt. J. P. Spanton	10.00
Capt. J. C. Brown	5.00
Dr. A. E. Melhuish	10.00
Capt. F. Armstrong	10.00
Capt. L. A. Brown	5.00
Dr. A. Gaudry	5.00
Dr. F. Maguire	10.00
Capt. P. R. Thompson	10.00
Dr. G. Gregory	10.00
Dr. A. Gillespie	10.00
Capt. W. W. Courtright	10.00
Capt. J. Brown	10.00
Dr. D. A. Warnock	10.00
Capt. E. H. Stent	10.00
Capt. J. D Knowles	7.50
LtCol. H. G. Bowes	10.00
Capt. C. W. Cartwright	10.00
Capt. C. F. Johnston	10.00
Capt. R. F. Wall	15.00
Dr. J. Goldbrown	15.00
Capt. E. A. Ryan	15.00

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918 :-

g subscriptions for force.			
H. Andrew, Borough, S.E.	£1	1	0
F. Aulton, Tutbury	1	1	0
J. Barr, Acle	1	1	0
J. Buxton, Highgate, N.	1	1	0
C. Crowhurst, Bodmin	1	1	0
W. N. Dobbing, Darlington	1	1	0
D. Evans, Llanrwst	1	1	0
W. G. Forbes, Kilmarnock	1	1	0
A. Gofton, Capt. A.V.C.	1	1	0
F. L. Gooch, Stamford Baron	1	1	()
E. Hall, Wellington, Salop	1	1	0
A. D. Lalor, Sleaford;	1	1	0
R. G. Linton, Edinburgh	1	1	0
J. McKerlie, Hungerford	1	1	0
J. C. Munby, Lewes (1917) 1	1	()
R. E. Nelder, Exeter	1	1	0
W. B. Nelder, Capt. A.V.C.	1	1	0
H. Peele, Capt. A.V.C.	1	1	0
H. L. Roberts, Ipswich	1	1	0
B. M. R. West, Capt. A.v.c.	1	1	0
Previously acknowledged	£551	2	0

£572 2 0

Personal.

HORTON-POWELL. On Feb. 19, at St. Peter's Church, Brockley, by Rev. F. Whitfield Daukes, M.A., Capt. Frank Fielding Horton, B.SC., M.R.C.V.S., A.V.C., son of Major Horton, of Beckenham, to Hilda Elizabeth, daughter of Mr. and Mrs. C. Powell, of Brockley.

REMOUNT PRESENTATION,—Capt. R. F. Sterling, the Army Veterinary Corps Officer at the Remount Depot, left recently for further service overseas. To mark their sense of appreciation of an efficient and kindly superior, the foreman, men, and lady grooms at the Depot have presented him with a handsome silver cigarette case suitably inscribed. Capt. Sterling, a veterinary surgeon of Dublin, obtained his commission in the A.V.C. in 1911. He went out with the original Expeditionary Force, and in the retreat from Mons was so severely wounded in the hip that he had to spend a year in hospital. He came to Worcester in Dec., 1916, and, with Mr. Arthur Jones, has examined several thousands of horses—an average of about 50 per week.—The Worcester Daily Times.

LIVE STOCK CONTROL.

Ref. 13/LSC/371.

2 Higher Summerlands, Exeter, 26th Feb., 1918.

Dear Sir,

Cattle suffering from Johne's Disease.

"Skenter."

Replying to yours of the 24th, I may say that according to present regulations, owners should in all cases where animals are slaughtered for human consumption, first pass them through a market to be graded and allocated.

In cases of real emergency, however, where immediate slaughter is absolutely necessary, the owner should first obtain (if at all possible) a veterinary certificate to this effect. The same would apply where for any good reason a beast cannot be sent to a market for grading.

Immediately upon slaughter, or before, if possible, a notification should be sent to the Auctioneer member of the nearest Grading Committee, who (as an authorised Government agent) would arrange for the disposal of the carcase in accordance with the regulations.

In my opinion (to avoid the spread of infection) the presence of such cattle in a market is not desirable, and in the strict interest of public health quite possibly it would be better that the carcases should be either entirely condemned, or subjected to careful microscopic inspection before being passed as fit for food.

The wholesale rejection of the carcases would, under present conditions, hardly seem justifiable, and I would therefore urge upon yourself and all other officers concerned, to put such restrictions upon the farmers and dealers as will effectually prevent any infected meat reaching the consumer.

In cases where diseased cattle are despatched to an authorised Government depot, the consumer is better protected, as at these depots the meat would be subjected to careful scrutiny.—Yours faithfully.

John Dunstan, Esq., M.R.c.v.s., Area No. 13. Liskeard, Cornwall.

OBITUARY.

J. E. Eltoft, M.R.c.v.s., Derwent Road, Lancaster. H. & A. S., 1873; New Edin: June, 1880.

Mr. Eltoft died 23rd Feb., aged 71 years.

TULLY-CHRISTIE.—On Feb. 20, after a long illness, in Queen Alexandra's Hospital for Officers, Millbank, S.W., Capt. William Tully-Christie, A.v.c., aged 40. Funeral service St. Peter and Paul R.C. Church, Palace Street, Victoria, on Monday, 25th; interment at Brompton Cemetery.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.			
			Out- breaks	Ani- mals.	Out- breaks	breaks mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh tered.	
Gт. BRITAIN. W	eek en	ded Feb	. 23	4	4			1	1	189	320	11	7	2
Corresponding week in		1917 1916 1915		15 10 17	22 23 18			1 3 1	2 4 1	71 79	144 169	21 10 6	44 66 62	12 240 175
Total for 8 weeks	s, 1918			54	62			3	4	1262	2419	161	113	35
Corresponding period in	{	1917 1916 1915		107 102 141	131 118 158	1	24	5 13 6	9 40 9	580 724	1445 1854	252 127 102	309 607 624	103 1934 2591

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive a) Confirmed. (b) Reported by Local Authorities. + Counties affected, animals attacked :- London , Board of Agriculture and Fisheries, Feb. 26, 1918 Excluding outbreaks in army horses.

IRELAND. Week ended	Feb. 16				 		Outbreaks 6	19		[E. 4
Corresponding Week in	1917 1916 1915			:::	 1 	1	 3 1	17 19 16	4 4 6	112 18 68
Total for 7 weeks, 1918					 		30	93	1	1
Corresponding period in	$ \begin{cases} 1917 & \dots \\ 1916 & \dots \\ 1915 & \dots \end{cases} $	1	1 5 		 1 	1 	6 14 8	109 119 108	23 25 26	138 72 183

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 18, 1918. * As diseased or Exposed to Infection Note. - The figures for the Current Year are approximate only.

VETERINARY RECORD

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1548.

MARCH 9, 1918.

VOL. XXX.

SIDELINES IN PRACTICE.

The conditions of veterinary practice are likely to be very hard for some years after the war; and it is well to take note of any possible additions to our existing sources of income. There are several obvious ones-sidelines of general practice which have so far been more or less neglected by the profession, and which, while not likely to be extremely lucrative, may nevertheless become very useful to us.

An instance can be seen in what may be made of canine and feline practice in out-of-the-way country We all know how canine work has developed in towns-many practices which were once almost or quite exclusively equine are now chiefly canine. Most country practitioners have already learned from this what a surprising amount of dog and cat practice can be done in almost any country district by a man who will give it serious There are still some country members who pay too little attention to this branch; but most are now constantly developing it more seriously.

Another instance is the sporadic diseases of sheep and pigs. There are still country practitioners who pay very little attention to ovine and porcine diseases - other than contagious or parasitic Others cultivate general practice in all diseases of these animals with profit to themselves; and the higher individual value of animals now, and for the next few years, will increase their oppor-This is a line of work concerning which comparatively little has yet been written or recorded; and many clinicians have still a good deal to learn regarding it. Many others have ample experience of it; but the profession as a whole has scarcely given it sufficient attention.

Poultry diseases, again, is another, to which attention was directed in our pages years ago. It is not as a rule so profitable as those previously mentioned; but still one that has been undeserved-A few members cultivate it with ly neglected. The foreign journals-French in advantage. particular-frequently contain clinical and other notes on the subject. But the majority of our men give it little or no serious attention. In most districts, more could be done with it than is done; though here, again, in many cases the practitioner taking it up would have much to learn.

Somewhat allied to this-being an avian subjectis the diseases of caged birds. There are already some practitioners who advantageously pay much is probable that veterinary surgeons would be asked people in the district, however, have suffered in a

to do it much more frequently than they now are, if they were known to be ready to undertake it. At present it is chiefly in the hands of fanciers—as canine practice once was.

It is true that in many and perhaps most cases, sidelines such as these will not yield any very great direct financial profit. At the same time they help to increase the income; and they undoubtedly also have some indirect beneficial effect, perhaps considerable, by extending the circle of the practitioner's clientèle. Those members who treat cats well know the great amount of quite special knowledge it requires; and the same is true of the diseases of other animals which have been comparatively little studied by the profession.

A veterinary surgeon is supposed to treat the diseases of all domesticated animals; but there was a time when, even in the country, many men con-cerned themselves very little with those of any animal but the horse. This has changed—and will change still more; equine practice will never regain its old importance, but other fields of work which have always been open to those who cared to enter them still offer us a not insignificant scope. The profession has shown its adaptability within this generation by the readiness with which it took up and succeeded in the previously badly neglected field of canine practice. The same adaptability applied to these others, though they are less profitable than canine practice often is, is yet capable of producing good results.

STANNOXYL.

By F. T. HARVEY, F.R.C.V.S., St. Colomb.

Stannoxyl is a combination of metallic tin and its oxide, entirely free from lead. It has recently been introduced by the French workers, Gregoire and Fromin, as having a specific action in controlling staphylococcal infections.

These scientists found that tin, its oxide, or its chloride, when added to ordinary bouillon culturemedium, strongly inhibits the growth under anærobic conditions of staphylococci; while under ærobic conditions the growth of the staphylococci is not hindered but the virulence of the microbe is diminished. Capt. Arthur Compton has recently reported in The Lancet several cases of acne and furunculosis successfully treated with stannoxyl.

In December, 1916, I got a badly poisoned finger attention to these; and a larger number might do shortly after operating at a difficult case of parturiso. There are districts in which there is practition. From this time on numerous boils continued cally no scope for this work; but, where there is, it to form, sometimes incapacitating one. Many similar way, and "war bread" has usually been

blamed as causing the trouble.

In my case I found that stannoxyl profoundly modified the course of the boil. The latter usually faded away with scarcely any pus formation, and in a few days the black-head would fall out leaving a little hollow space, and quite dry. The effect

appeared to me remarkable.

The object of this note is to suggest that the drug may be of use in the treatment of follicular mange, in which disease a staphylococcal infection is usually present, and likewise in those cases of furunculosis involving the digits, and frequently recurring in some dogs. I would strongly advise any veterinary surgeon having such cases in hand to give stannoxyl a trial. It can be obtained from the Anglo-French Drug Company, Gamage Buildings, Holborn. I have tried to obtain a supply of the drug in bulk for experimenting in other directions, but at present it is only supplied in pellet form.

Staphylococcal infections in the lower animals are common enough, and if further experience should prove them amenable to chemio-therapy, as is the case with iodides in actinomycosis, and arsenical compounds in syphilis, it will open up wide possibilities in the domains of medicine and surgery, since we may hope that each variety and class of germ may have its drug antidote as well as its phylactic vaccine- therapy. For various reasons -economic and otherwise—a successful chemiotherapy offers many advantages over a vaccine one.

PECULIAR ABNORMALITY IN A FŒTUS.

Dear Sir,-You recently published a photograph of an abnormal fœtus. I have come across a somewhat similar case within the past few days, save in this instance the hind quarters of the calf were bent forward and lay over the shoulders and fore part. The interesting point is that its appearance was as though the abdomen had been slit across. and the back broken and bent forward, but at the "break" there was rigid fusion. The viscera were free and protruding from the vulva on my arrival.

The cow collapsed suddenly during the attempt at delivery, and post-mortem showed the abnor-

The cow was due to calve fourteen days previously but never showed any signs until about an hour before I was called.

J. G. Hoban, M.R.C.V.S.

Stafford, March 1st.

SOME BREEDING STATISTICS.

By R. Branford, M.R.C.V.S., I.C.V.D., Superintendent Government Cattle Farm, Hissar.

The following notes may be of interest to breeders and students of Mendelism.

(1) Colour in mules. My experience of mule breeding has been confined to breeding mules for the army. The army require mules up to various standards of measurements for different purposes, and always prefer them dark-coloured"; greys, even dark iron-greys, are always liable to be rejected, possibly owing to the tendency of horses are very rare in donkeys and seem to be even

even dark-greys to lighten in colour with age. Hence my experience has been confined to the use of dark-coloured donkey stallions, except a few cases in which "Mouse" coloured donkey stallions Mouse" coloured donkeys have been used. The following are particulars as regards 219 mule foals bred in recent years at the Government Cattle Farm, Hissar:-

111 mules bred from 42 bay or brown mares by black or dark brown donkeys were all bay or brown.

6 mules from the same mares by mouse-coloured donkeys were also all bay or brown.

41 mules from 13 chestnut mares by black or darkbrown donkeys were all bay or brown.

1 mule from a chestnut mare by a mouse-coloured donkey was a bay.

20 mules from 13 roan mares by black or dark-brown

donkeys were 18 bays or browns, and 2 duns. 27 mules from 14 grey mares by black or dark-brown donkeys were 18 bays or browns, 6 greys, 2 duns, and 1

mouse coloured. 6 mules from grey mares by mouse-coloured donkeys were all bays or browns.

4 mules from 4 dun mares, 3 by black or dark-brown donkeys and 1 by a mouse coloured donkey, were all bays or browns.

3 mules from 2 skewbald mares by black or dark-

brown donkeys were all bay or brown.

From the above figures one may assume that using dark or mouse-coloured donkeys and bay, brown or chestnut mares, one may be certain of getting a mule of a colour suitable for military purposes. Almost certainly the mules will be bay or brown. As would be expected, chestnut being recessive in horses and not being a donkey colour, chestnut is a rare colour in mules. It does, however, occur. Of 1200 mules described in one of the Farm registers, 8 were chestnut. No chestnut mule has ever been foaled on the farm, and I do not know from what coloured parents the chestnuts occur. It also seems reasonably certain that roan, dun. and mares with any considerable patch of colour, pie-bald or skewbald, if covered by dark-coloured donkeys will produce dark-coloured bay or brown mules. The patches of colour on two of the skewbald mares, bred from here, are very faint. At a distance the mares look white, 3 mules from them are all dark bay. The 13 roan mares bred from are of all shades of roan, chestnut, strawberry, and blue. Some are very light in colour, with the great majority of the hairs white. Eighteen of their 20 mule produce are distinct bays or browns, without the trace of a white hair. The two duns were both dark enough to be accepted by the army.

The tendency of the grey horse and mule to become lighter in colour with age causes difficulty in the compilation of accurate statistics as regards this colour.

So far as my experience goes, marcs with dark manes and tails nearly always produce true bay or brown mules.

Certainly 4 mules recently produced by such mares have been true bays without any tendency to become

Undoubtedly the practically all white mare also sometimes produces true bay mules, but the fact that the mules are in any case born black or brown, and if they become grey at all become more so as each successive coat is shed, is always liable to cause error in descriptions.

As pointed out by Professor Wilson in his "Manual of Mendelism," the colour of the donkey appears to be almost invariably recessive to that of the horse.

However, mouse coloured mules as disinct from duns, similar in colour to the mouse-coloured donkey, with the same zebra stripes across the wither and leg are not uncommon. One bred on this farm was out of a grey mare by a brown donkey.

White markings on the head and legs so common in

more rare in mules. I have never seen a mule with any white on his legs, and can only recall two with stars. The factor for whole colour in donkeys appears to be dominant to the factor for broken colour in horses.

Three zebra hybrids, two from chestnut mares and one from a skewbald mare, were bred and reared on this farm. All were approximately the same colour and the zebra markings are very distinct in all, very much as depicted in Professor Cossar-Ewart's hybrid "Romulus," but the ground colour is not quite the same as any horse colour, it most nearly approaches light bay, but is distinctly more yellow.

Donkeys. My experience has been confined to breeding or attempting to breed donkey jacks suitable for breeding a good class mule, preferably one suitable for

military purposes.

Dark-coloured jacks are preferred, and only darkbrown or black and occasionally mouse-coloured donkey stallions have been used. As many as possible of the mares used have also been brown or black, but a few mares of other colours, viz., mouse, grey, and white have also been used.

Those described as white are not, of course, albinos; parts of the skin, notably lips and udder, are generally black, but they are born with all the hairs white and

remain white.

The four mares used were purchased animals and probably were from white parents; there being a breed of white donkeys in the Punjab, which probably breed true, although I can produce no statistics to prove the point, and no doubt, as is the case with all stock in India, as a rule no trouble is taken to keep the breed

Some dark-coloured donkeys have light-coloured muzzles, bellies, and round eyes. Greys are usually a more or less even mixture of white and dark hairs, but are

sometimes dappled.

The following statistics have been collected from farm registers. The liability to error in describing grey is very great, and largely discounts the value of the figures:

(1) 93 foals from 16 brown mares by black or darkbrown stallions were 82 brown, 8 grey, and 3 mouse.

Four from brown mares by mouse-coloured stallions

were 2 mouse, 1 grey, and 1 brown.

(2) 37 foals from 9 mouse-coloured mares by black or dark-brown stallions were 14 mouse, 17 brown, and 6 grey.

One foal from a mouse-coloured mare by mouse-

coloured stallion was mouse coloured.

(3) 19 foals from 4 white mares by black or dark-

(3) 19 Ioais from 4 white mares by black or dark-brown stallions were 12 grey, 1 brown, and 6 mouse.

(4) 58 foals from 13 grey mares by black or dark-brown stallions were 26 brown, 5 mouse, and 27 grey.

The dark-brown or black donkeys generally seem to breed true. The produce of 9 of the mares by black or dark-brown stallions were all brown or black.

The greys probably occur when one of the parents is not a pure brown or not wholly brown. Dark-coloured donkeys with a few white hairs interspersed in their coat are common. At present I have two 4-year old jacks, both the produce of dark-brown mares and stallions, both are practically black, but both have a few white hairs especially about the head and neck. One at six months was described as a grey.

The tendency so marked in horses and mules for greys to become lighter in colour with each shedding of the coat, does not apply to donkeys; the reverse is generally the case. I have several practically black

donkeys which were quite grey at six months of age.

It would be interesting to breed grey mares with a grey jack and mouse mares with a mouse jack. Possibly the produce of greys might split up into whites and dark-browns or blacks, but white and light-greys being

unpopular colours, it is not likely I shall ever have an

opportunity to use a grey jack.

Sheep. The produce of black-faced crossed with white-faced sheep is said to be grey-faced. I expected to obtain similar results by crossing black-wooled with white-wooled sheep, but recently I bred five black ewes to an Australian white Merino ram, and the lambs were all black, exactly like their mothers

The ewes are all black with a white tip at the end of the tail, and have a white patch on their forehead. Colour at birth is coal black, when mature they fade to a rusty black. Two of the ewes have lambed twice, so altogether seven black lambs have been born to them,

by a white ram.

Five of the lambs are females, when old enough they will be bred to one of the cross-bred black male lambs.

Cattle. Recently I received a complaint that the produce of a red Sihwal bull sold from the farm, which was being used with a herd of red cows, were all white. I have had no opportunity to investigate the matter, but as red cattle usually breed true to colour, probably some other bull has had access to the cows. Various colours are claimed to be typical of Sihwal or Montgomery cattle, but reds are generally preferred. Only a small number of these cows are maintained on this farm, most are red and only red bulls are kept.

Of 50 calves from red cows by a red bull recently

born on this farm, 48 were red and 2 grey.

Birth statistics. The proportion of male to female births is a question which appears at times to excite some interest.

I append a list showing the number of male and female calves born on this farm, during the last ten

Number of Calves born during the years 1906-7 to 1915-16, and April 1 to Dec. 31, 1916:-

Male.	Female.	Mean.		Excess
315	267	291		24 m.
292	285	288		4 m.
406	381	393		13 m.
318	345	331		14 m.
429	380	404		25 m.
372	367	369		3 m.
326	297	311		15 m.
376	407	391		16 f.
446	398	422		24 m.
583	521	552		31 m.
64	67	65	•••	2 f.
	-			
3927	3715			

During the same period approximately, donkeys have

n		mora nerow			
	Colts.	Fillies.	Mean.		Excess.
	18	9	13		5 c.
	25	26	25		1 f.
	17	17	17		_
	26	19	22		4 c.
	19	17	18		1 c.
	37	31	34		3 c.
	32	31	31		1 c.
	21	29	25		4 f.
	30	23	26		4 c.
	31	31	31		_
	16	25	20	•••	5 f.
	-	-			
	272	258			

THE ROYAL SANITARY INSTITUTE.—At an Examination for Inspectors of Meat and Other Foods, held at Manchester on March 1 and 2, 6 candidates presented themselves. following 3 candidates were awarded certificates:—

Lyon, Ernsst, Wigan. Taylor, Geo. Edwd., St. Helens. Williams, Benjamin, St. Clears.

E. WHITE WALLIS, Deputy Registrar.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:-

E. W. Baker, Wimborne	£1	1	0
T. A. Blake, Capt. N.Z.V.C.	1	1	0
C. W. Cartwright, Capt. A.v.c.	1	1	0
J. J. Dunlop, Capt. A.v.c., M.C.	1	1	0
T. A. Elam, Wigan (1917, 1918)	2	2	0
T. G. Heatley, Capt. A.V.C.	1	1	0
H. H. Hide, Edmonton	1	1	0
J. A. Hodgman, Barnsley	1	1	0
H. Holroyd, Blackburn	1	1	0
W. D. Jordan, Capt, A.v.c.	1	1	0
D. Keir, Capt. A.v.c.	1	1	0
V. C. Leckie, Major A.v.c. (1917, '18)	2	2	0
W. E. Livock, Newmarket	1	1	0
K. McL. MacKenzie, Maj. A.v.c., D.s.o.	1	1	0
G. T. Matthews, Bd. of Agric., W'hall	1	1	0
G. Mayall, Bolton	1	1	0
T. Menzies, Capt. A.v.c.	1	1	0
J. C. Munby, Lewes	1	1	0
B. A. Myhill, Capt. A.v.c.	1	1	0
E. P. Owen, Thame	1	1	0
W. C. P., Anonymous	1	1	0
E. L. Siddall, Capt. N.Z.V.C.	1	1	0
A. H. Watson, Capt. A.v.c.	1	1	0
W. P. Weston, York	1	1	0
J. E. Young, Capt. Avc.	1	1	0
Prev. acknowledged £572 2 0 less W. S. Walker, cred.			
twice in list of Jan. 26 1 1 0			
	571	1	0
	2600	9	0

ROYAL COLLEGE OF VETERINARY SURGEONS, 10 Red Lion Square, London, W.C. 1.

4th March, 1918.

The Editor, "The Veterinary Record."

Sir,-I notice in the report which you publish under the heading "Military Appeal Dismissed," the statement: "The Local Tribunal gave conditional exemption to Mr. Masson and called attention to a letter from the Royal College of Veterinary Surgeons in support of this decision." As this may cause misunderstanding, I think it well to state that the letter sent from this office should not have been described as a letter in support of Mr. Masson's exemption, as it was merely a statement of the general recommendations made by the Council at its meeting in January, 1917.—Yours faithfully,

FRED BULLOCK, Secretary.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—SOUTHERN BRANCH.]

The annual meeting of the Association was held at

minster; W. Grasby, Daventry; F. L. Gooch, Stamford; A. Renfrew, Broadway; and the Hon. Sec., Mr. H. J. Dawes, West Bromwich. The following visitors were also welcomed: Capt. H. W. Dawes, and Mr. A. Holman Berry, B. of A.

Apologies for unavoidable absence were announced from Prof. Dewar, Maj. W. S. Carless, Capt. Martin, Messrs. C. J. Clifford, F. W. Barling, J. T. Brain, J. R. Carless, E. Ringer, R. L. Phillips, P. C. Woolston, H. B. Hiles, R. C. Trigger, F. V. Steward, J. C. Deville, A. B. Forsyth, W. Trigger, and others.

The Hon Sec. read the notice convening the meeting and also the minutes of the last quarterly meeting, which were duly confirmed.

The late Prof. Mettam.

The President said it was his melancholy duty to refer to the death of one of their oldest and most respected honorary members, the late Prof. Mettam, of Dublin. "It came as a particularly sad blow to me, he said, "because when he used to reside in Birmingham we were close personal friends, and it was largely due to my influence that he test with the tracking respective." ence that he took up the teaching profession. That he took the right course, all who knew him would agree, because he was a brilliant success. He did so well at Edinburgh that when the Dublin College was started he was invited to be the first Principal. At the time of his death Dublin stood second to no school in numbers and reputation. His success depended not only on his great personal ability, but on the sheer hard work which he did. Prof. Mettam always entertained a lively recollection of his residence in the Midlands, and when he read a paper before this Association two or three years ago, on Foot-and-mouth disease, his old friends turned up in large numbers. I have lost one of my oldest and most loyal friends. I move that a vote of condolence be sent from this meeting to his wife and family.

Mr. Gooch seconded, and said only those in personal contact with the late Prof. Mettam knew the influence he had over his students. It was the sympathy between him and them that did much to build up the reputation of the Dublin College. He (the speaker) went to Dublin as an examiner last December, and could not help noticing the gloom there was over the place. Everyone felt he had lost a personal friend.

The Hon. Sec. said his remembrance of the late Professor dated back to his own days as a pupil with a practitioner for whom the Professor then acted as an assistant. That was the beginning of a very long and close personal friendship. He had visited Dublin Colclose personal friendship. He had visited Dublin College twice a year, and could bear out all that was said of the relations that existed between Prof. and Mrs. Mettam and the students. They were as kind to the students as if they were their own children, and the students held them in an affection which the visitor could not fail to notice. No Veterinary College ever had a brighter time than Dublin under Prof. Mettam.

Mr. Ison as one of Prof. Mettam's old students have

Mr. Ison, as one of Prof. Mettam's old students, having paid further tribute to his memory, The vote of condolence was carried, the members silently standing.

TREASURER'S STATEMENT.

Mr. Burchnall, as Hon. Treasurer, presented his annual financial report, duly audited. This showed the total income, including a sum of £185 3s. 5d. brought The annual meeting of the Association was held at the Grand Hotel, Birmingham, on Friday, February 15. The President, Mr. J. Malcolm, occupied the chair, and there were also present: Messrs. J. O. Powley, T. Slipper, Sutton Coldfield; J. J. Burchnall, Barrow on Soar; J. Martin, Wellington; H. L. Pemberton, Bridgnorth; W. E. Ison, Atherstone; J. Young, S. M. Woodward, W. H. Brooke, E. O'Neill, J. Whyte, Birmingham; F. O. B. Taylor, Stratford-on- Avon; R. Murray, Rugeley; J. Cormack, Coventry; J. W. Conchie, Kidderlance, £5 5s.; Secretary's disbursements, £25 17s. 9d.; Treasurer's expenses, £1 6s. 3d. War Stock of the face value of £95 had been purchased during the year at £95

cost, leaving a balance in hand of £93 8s. 8d.

Mr. Ison, in moving the adoption of the accounts, said they were extremely satisfactory, considering the times. Allowing for the investment in the War Loan, they were a few pounds better off than they were a year ago, notwithstanding that no subscriptions were being collected from the large number of members who were in the army.

The motion was seconded by Mr. Gooch, and carried.

COUNCIL'S REPORT.

The Council, who met immediately prior to the general meeting, recommended that there be again no change in the personnel of the officers of the Association during the war. They also recommended that the next quarterly meeting be held in Birmingham, when Mr. A. Holman Berry had kindly promised to read a paper.

On the motion of the President, the Council's recom-

mendations were unanimously agreed to.

VOTE OF THANKS TO OFFICERS.

Mr. Gooch proposed a vote of thanks to the officers of the Association for their services during the past 12 months, and said he was sure they were doing a wise thing in re-electing them en bloc during the present trying times. The Association was carrying on much better than many of them had thought possible. The attendance was quite creditable, some very interesting agendas had been arranged, and the finances of the Association were in a very healthy state. For that very satisfactory position they had to thank their officers, and he moved his resolution with very much pleasure.

Mr. Powley seconded the motion, which was carried. The President, in acknowledgment, said the one aim of the officers was to keep the Association together during the war, because they knew that when peace was restored the Association would proceed on the same suc-cessful lines as it had always done in the past. The officers had done their best, but they must have failed except for the support they had received from the general body of the members.

The Hon. Sec. also replied. He thought they had much to congratulate themselves upon. The great difficulty at present was to get essayists to come forward, but so far they had succeeded beyond their antici-

pations.

THE VICTORIA VETERINARY BENEVOLENT FUND.

Mr. Gooch entered a plea for the V.V.B. Fund, and said if only members of the profession knew the good work that was being done they would subscribe to the very limit of their power. As a member of the Council of that Fund he heard some very distressing cases, many of them the widows and children of veterinary surgeons who were in reduced circumstances through no fault of their own, but through sheer misfortune. He knew that many members of the Association were already subwithout mentioning any names Mr. Gooch outlined one or two typical cases. He said collecting boxes might be placed in the surgery. Often a veterinary surgeon did something for a client for which he made no charge, but he could point to the box and invite a contribution to a most deserving charity. He would be pleased to supply any veterinary surgeon with a collecting box. He appreciated what this Association had done for the Fund, and he thought more still might be done, considering how much money they had in hand. To put the matter in order, he begged to give notice that at the next quarterly meeting he should move that a sum of not less than ten guineas be given by this Association as a donation to the Victoria Veterinary Benevolent Fund.

Mr. Renfrew: If you had said twenty guineas I should support you. We can't spend our surplus funds in a better way. I know something of the good work which this Fund is doing.

Mr. MARTIN: Is the donation to be in addition to the

annual subscription?

Mr. GOOCH: Certainly. We don't want to interfere with the annual subscription, unless it is to increase it. Mr. CORMACK: Perhaps some members would like to make a subscription this afternoon.

Mr. Gooch said he meant to bring a collecting box to the meeting, but if the members would imagine it to be

on the table he should be glad.

As a result of this suggestion the sum of £3 was collected in the room, and the Hon. Sec. undertook to bring Mr. Gooch's notice of motion forward at the next meeting, both he and the President adding a few words in support of the proposal. Seven new collecting boxes were taken by members.

Some Parasitic Diseases.

Mr. Powley read an interesting paper on "Some Parasitic Diseases," and it was followed by a discussion, in which the following took part: Messrs. Grasby, Martin, Renfrew, Brooke, Gooch, Capt. Dawes, O'Neill, Cornack, Slipper, Murray, Ison, Burchnall, the Hon Sec. and the President.

The Hon. Secretary moved a vote of thanks to Mr. Powley for his paper and said he was only sorry that circumstances which could not be avoided prevented both the paper and the discussion being reported. Those members who were present had thoroughly enjoyed it, and would profit by what they had heard, whilst those members who were absent were so much the poorer.

The President seconded, and said Mr. Powley stepped into the breach at the last moment, for which they

ought to be doubly grateful.

The vote of thanks was carried and suitably acknowledged by Mr. Powley, who said that as an Inspector under the Board of Agriculture, it was not only his pleasure but also his duty to assist the veterinary profession in every way he could.

The members had tea together before separating.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

Cruelty prosecution-dismissed.

At Worthing Petty Sessions, on Wednesday, Feb. 13, before Colonel A. Henty (in the chair); Messrs. E. G. Amphlett, H. Hargood, R. Piper, Councillor W. Sams, Mr. A. F. Somerset, Alderman G. Ewen-Smith, and Mr. H. R. P. Wyatt, Samuel Kenneford pleaded not guilty a marking a horse in an unfit state. He was represented. to working a horse in an unfit state. He was represented by Mr. A. Buckland Dixon.

Inspector Hunt, of the R.S.P.C.A., said on the morning of the 18th January he stopped defendant, who was driving a four-wheeled van laden with jam jars. Witness pointed out that the horse was suffering from an enlarged hock and a seedy toe and was, in witness's

opinion, worn out.

Mr. Dixon questioned Inspector Hunt as to his veterinary abilities, and the Inspector said he had no veterinary qualifications but had had 26 years of veterinary

Police-Sergeant Ayling said in his opinion it was cruelty to work the horse in the condition it then was.

Edward J. Stent. 18 Wenban Road, now working as a gasfitter, said he owned a stable for many years, having been a cab proprietor, and he was still engaged in the latter trade. Witness formerly owned the cob now in the possession of Mr. Kenneford. It was about 16 years years old, and had always had a little bone that was not right in the hock. Witness said he was in the yard when the Inspector approached the horse, and when he asked the Inspector why he stopped it, he said, "You mind your own business."

The Inspector (to Stent): Are you interested in this horse? Stent said he was, as Kenneford had not yet

finished paying for it.

Mr. J. W. Pritchard, M.R.C.V.S., for the defence, said Mr. Stent had been one of his clients for many years. The cob was lame and would always be lame in one leg because it had a fixed hock joint, which corresponded to a stiff ankle in a human being. Witness defined it as a mechanical lameness, and said the horse's condition was

very good, and it was capable of steady work.

The Bench decided to dismiss the case.—SussexDaily

News.

Buckingham Palace, Feb. 27.

The King held an Investiture of the Most Excellent Order of the British Empire when His Majesty invested the following with the Insignia of the respective Divisions of the Order into which they have been admitted:—

COMMANDERS.

Mr. FRANK GARNETT.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Feb. 28.

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lt. to be temp. Capt.:—J. W. Proctor (Feb. 12).

March 1.

Capt. B. P. Riley, Spec. Res., relinquishes the actg. rank of Major on ceasing to be specially empld, (Feb. 7).

Maj. S. F. G. Pallin, p.s.o., to be actg. Lt.-Col. while

holding appt. of Asst. Dir. of Vety. Servs., (Jan. 25).

March 5.

Capt. E. J. Devine retires on ret. pay on account of illhealth (Mar. 6).Maj. A. J. Williams relinquishes the rank of temp.

Maj. A. J. Williams relinquishes the rank of temp. Lt.-Col. on ceasing to be specially empld. (June 25, 1917). Maj A. J. Williams to be actg. Lt.-Col. whilst empld. as

Maj. A. J. Williams to be actg. Lt. Col. whilst empld. as Dep. Dir. of Vety. Servs. (from July 25 to Oct. 7, 1917)
Maj. A. J. Williams, F.R. C.V.S., to be actg. Lt. Col. whilst empld. as Asst. Dir. of Vety. Servs. (Nov. 5, 1917).
Temp. Lieut. to be temp. Capt.:—F. Airey (Feb. 15).

The A.V.C. Comforts Fund.

Dear Sir,—I shall be grateful if you can find space in this week's issue of *The Record* for the enclosed letters and lists. I feel sure Mr. Macfarlane's original scheme* for raising money for the benefit of the Comforts Fund will interest other supporters. Also I should like to convey through the pages of *The Record* very grateful thanks to Mr. Jameson for his most kind interest and efforts in collecting subscriptions from his fellow officers and others at present serving in East Africa. I feel sure those of our A.V.C. men who benefit by the gifts as supplied by the Comforts Fund will be gratified to know

that those of the Corps in far away East Africa also desire to help in this kindly manner.—Yours truly,

ADELAIDE M. Moore. 20 Parsifal Road, Hampstead, N.W. 6. March 6th.

*"In my endeavour to help the Fund, even more so than I did last year, and without unduly pressing on any section of my acquaintances, I obtained two Equine Axises (bishop's bones) and had them painted to represent clergymen in a pulpit pronouncing benediction (the faces were painted by Mr. David Gauld, the famous calf artist—no insinuation meant). My friend, Mr. John Wallace, of Dixon & Wallace, Auctioneers & Valuators, Glasgow, kindly consented to expose the bones for 'Snowball' auction at his fortnightly horse sale in the Glasgow Cattle Market on January 23rd, and they realised £20, Dixon & Wallace's cheque for which I herewith enclose; and also the names and amounts from each subscriber."

List of Subscriptions.

per Lt. Col. F. C. Stratton,		d li	st)			
J. Beattie, M.R.C.V.S., Lo	ngside			£1	1	0
D. Macfarlane, M.R.C v.s.,	Doune			1	1	0
per Jas. Macfarlane, M.R.	c.v.s, Gl	asgo	w	10		
D. Webb, Esq.	£1	1	0			
J. Barrie, Esq.	1	1	0	400		
John Barrie, Esq.	1	1	0	- 400	mi.	
John Purvis, Esq.	1	1	0	75		
A. Horman, Esq.	1	1	0	18		
R. Hamilton, Esq.	1	1	0	- 84		
W. Harvie, Ésq.	1	1	0	100		
J. R. Foster, Esq.		10	6	- 10		
W. Smith, Esq.	1	1	0	40		
R. & T. Stewart	7.7	10	6	-		
M. Lumsden, Esq.		10	6			
W. Forrest, Esq.		10	6	194		
W. Gemmell, Esq.		10	6	46		
J. Brown, Esq.	1	ĭ	o			
J. Macfarlane, M.R.C.V.S		î	ŏ			
John Wallace, Esq.	î	î	ŏ	地區		
R. Hamilton, Esq.	2	10	ő	· .		
S. Shields, Esq.	ĩ	0	ő	Health		
A. McKinlay, Esq.	î	1	o	-		
J. Watson, Esq.	î	i	ő	- 40		
Cash		4	6	: E:		
Cash	_	4	0	20	0	0
Cont A Moldrym Bom	D			- 47.5	130	3.53
Capt. A. Meldrum, Rem	ount Del	ot.		2	0	0
J. McClemont, M.R.C.V.S.,	Ola Cui	mno	ck	- 1	0	0
J. D. Pottie, M.R.C.V.S.,	Greenock			15.00	11	0
J. N. Reynard, M.R.C.V s.,	Manue	1		3	3	0
A. Wooley, M.R.C.V.S., K	ırrıemuii			1	1	0
				£29	17	0

Darossalaam, East Africa, 21st Dec., 1917.

Madam,—I have much pleasure in enclosing a cheque value thirty guineas (£31 10s.) towards the A.V.C. Comforts Fund. A list of subscribers is attached.

Yours truly, R. H. Jameson, Lt. and Qrmr., a.v.c.

EAST AFRICA.

W. Kennedy, Deputy C.V.O.,	Civil Vet.	5	0	0
W. Kearney, V.O.	Dept.,	1	0	0
J. Bradshaw, V.O.	British	1	0	0
M. H. Reid, V.O.	E. Africa	1	0	0

F. J. McCall, Major (A.D.V.S) E.A.V.C.	3	0	0
F. J. Sheedy, Capt. and Adjt. E.A.V.C.	5	0	0
W. W. Henderson, Capt. A.V.C. (S.R.)	1	0	0
A. M. Howie, Capt. s.A.v.c.	2	0	0
B. Van der Viguer, Capt. s.A.v.c.	3	0	0
A. McNac, Capt. s.A.v.c.	2	0	0
M. Cunningham, Capt. s.A.v.c.	2	0	0
E. M. Jarvis, Capt. s.a.v.c.	1	3	4
A. E. Webber, Capt. E.A.V.C.	1	10	0
E. Norman, Pte. A.V.C.		5	4
C. W. Matthews, Dresser s.A.V.C.		6	8
W. Grimbeck, Cpl. E.A.V.C.		7	0
R. H. Jameson, Lt. and Qmr. A.V.C.	1	17	8
	£31	10	0

Fees paid by Insurance Companies.

To the Editor of The Veterinary Record.

Dear Sir,—As we shall soon have the foaling season upon us, I should like to know what action the members of the profession will take with regard to the examination of in-foal mares for the different Insurance companies.

In the past the fee has been too small, yet this year, when everything is so advanced in cost, they expect us to keep on at the old rate of remuneration. I contend

that it cannot and should not be done.

I have before me now a form to examine a mare insured for £50 for the large fee of 4/-, and as a further inducement to proceed early with the examination 1/6 is allowed for mileage. The place where this mare is is five miles distant, and what is going to pay for the petrol, oil, wear and tear of tyres? And on the top of this is the time employed, which nowadays is an item to be reckoned for. In the majority of those examinations which I have very unwillingly carried out the animal to be examined has been away from the building, and I have had to walk nearly a mile through heavy, wet ground and drive the animal up to the building to complete the examination—thus taking up valuable time which could be more profitably used.

I have decided not to make any inspection for a smaller fee than 5/- for each animal, plus 1/- per mile one way, and no reduction for a number of animals. If veterinary surgeons would decide on what would be a proper fee, and all of them stick to it, 1 am sure the companies would grant it; but not if they can get one who places little value on his service to do it for less. And this is what I have found to happen when I have returned the forms to the company and refused to do

the work for the paltry, groom's fee.

I once returned a form marked 3/6, which meant going eleven miles to examine a mare, informed the company that the fee was inadequate, only to hear a few days afterwards that an opponent had done the work. But you will find some like this about who should be forced to relinquish the letters after their name. Almost every trade or occupation has a trade union which fixes the minimum wage, and yet the veterinary profession seems to have no united or beneficial agreement. Don't forget that Vis unita fortior.—Yours sincerely,
J. WRIGHT CONCHIE, F.R.C.V.S.

Kidderminster, Feb. 26.

An unqualified practitioner.

Wilshaw v. Kinsey. This case had been before His Honour in October and December last. The plaintiff, Ernest Albert Wilshaw, veterinary surgeon, Shortmead Street, Biggleswade, sued defendant, E. M. Kinsey, acting veterinary surgeon, Shefford, for 15s. 6d. moneys received on plaintiff's behalf. There was a claim for £10 5s. 3d. for services rendered.

Mr. G. Passingham, solicitor, appeared for the plaintiff, and Mr. J. A. Jackson (Messrs. Wade and Jackson), Shefford and Hitchin, for the Defendant.

The case had been adjourned for the attendance of

Mrs. Wilshaw, who had been away ill.

The case had reference to a period since the outbreak of war when the plaintiff was away on service in France, and defendant undertook veterinary work for him here.

Defendant was now called and questioned as to why he did not ask the plaintiff for money alleged to be owing to him. He replied that he had met and told him and written to him to say he owed him money

John Frederick Burr, veterinary surgeon, St. Neots, called for the defendant, said that during 1915 Mrs. Wilshaw requested him to do some work. She said she was in a difficulty, that her locum tenens was drunk and fell off his bicycle and she had got rid of him and had no one to do the work. Witness used to come Then she communicated with Mrs. Powell.

Mr. Jackson: You cannot say that. Just tell His

Honour what you personally know.

Mr. Burr, continuing, said that he had a conversation with Mrs. Wilshaw and she said Mr. Kinsey had been over to see her, and she had made an arrangement to do the work, and she had paid him 30/- per week, and she agreed to pay him extra for operations. She said that time after time, and that she did not know what she would have done but for Mr. Kinsey, he was very kind to her.

Replying to Mr. Passingham, witness said 30/- a week

was a very small sum to pay.

The Judge: Did you suggest anything about opera-

Witness: Mrs. Wilshaw told me, your Honour. Mr. Passingham then called Mrs. Wilshaw, who said: My husband was away on service and I wanted someone to assist to carry on the business. I wrote to Mr. Kinsey and he came round, and I made an arrangement with

him to do Mr. Wilshaw's work for 30/- a week and Mr. Kinsey agreed to do so. Nothing was said about operations.

operations were to be paid for in addition to the 30/-? Witness: No, there was no question as far as I know. Did he ever raise the question of operations ?-- No, I have no recollection of it.

Mr. Passingham: Will you tell His Honour whether

He did certain work ?—He came home and told me what he had done, and of the medicine, and I took it

down into the book.

Did you know anything about these extra charges for operations:—Not at all. I didn't know anything about them.

He was paid 30/- as arranged ?-Yes.

The Judge: Is there anything outstanding now? Mr. Jackson: Yes. There are two weeks left.

Mr. Passingham denied that this was so, and said the only record they could get was the record he gave to Mrs. Wilshaw.

It seemed now agreed that about a week was due. The Judge said she was an agent of necessity. authority was admitted. The only question was whether

the 15/6 was due and a moiety of the £3. Mr. Passingham said with regard to an item of £1,

that was paid by cheque.

Mr. Jackson said the claim for £1 0s. 3d. was for

something else altogether.

Mr. Kinsey, recalled, said he had nothing to do with the pricing of operations. The operations he did for Mrs. Wilshaw were well worth £2 2s. The case was one of spite from beginning to end. It was the dirty way in which he (plaintiff) has treated him (witness). That was all there was in it. As to these operations, Wilshaw had had the money for them.

Mrs. Wilshaw, recalled, adhered to her former statement that operations were not mentioned in her arrange-

ment with Kinsey.

Do you say that Mr. Kinsey was paid 30/- for the the week ending Sept. 10th?—The cheques will prove, I

should think.

Mr. Passingham: The last cheque paid was August 30. Mr. Jackson: That is right, and I am suing for the 10th and 17th.

Mr. Jackson asked Mrs. Wilshaw whether Mr. Wilshaw was not agent for the Yorkshire Insurance Co. She replied in the affirmative.

Do you deny that the 30/- was for work done in going round for the Yorkshire Insurance Co Mrs. Wilshaw

could not say.

Plaintiff explained that on the outbreak of war he joined the army and in 1915 came home on leave. Mr. Kinsey was assisting Mr. Burr. There was no mention of operations. He knew Mr Kinsey was being paid 30/a week for the work he was doing. Witness never heard of this counter-claim till he took these proceedings. As to operations, he had instructed Mr. Kinsey how to carry them out.

Did you express your satisfaction ?—No. There was

nothing particular about it.

His Honour said he thought 30,- was due for the final week. As to whether anything was due for these operations, etc., he did not think there was. He was very sorry that the admission was made that the case was one of spite.

He gave judgment for 15/6 on the claim and £2 2s. on the counter claim.—Biggleswade Chronicle.

[E. M. Kinsey was prosecuted by R C.V.S. and fined £13 1s., inclusive, in October, 1914, for using the letters M.R.C.V.S. on a certificate. See V.R., Oct. 31, 1914. There were other unsatisfactory features which do not appear in this case.]

"APRÈS LA GUERRE."

What shall we do when the war is over? What shall we do when we all go back? When we all wear mufti and live in clover, And have in abundance all we now lack.

Shall we settle down to pushing a pen, Or handing out candles and cheese? Now we have learnt what it is to be men, How shall we tackle jobs like these?

The stuffy office, the crowded train, The dull, monotonous daily task, Will surely never be ours again, To live in the open is all we ask

It is well that we still have far flung lands, Where mountain and plain are void of man; There, with spade, axe, or bridle again in our hands.

We may live in the open the life of a man.

France, Feb. 3.

A. L. WILSON

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

-	Period.		Anthrax		and-1	Foot- and-Mouth Disease.		Glanders.†		sitic age. ‡		Swine Fever.		
Per			Out- breaks	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- oreaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.	
Gт. BRITAIN. We	eek end	led Marc	h 2	C	9			3	20	138	266	12	11	3
Corresponding week in	{	1917 1916 1915		10 15 14	22 18 17			2	6 2	71 50	163 104	20 5 5	49 97 67	21 232 246
Total for 9 weeks	, 1918			63	71			6	24	1391	2669	173	124	38
Corresponding period in	{	1917 1916 1915		117	153 136 175	1	24	5 15 7	9 46 11	751 774	1608 1958	272 132 107	358 704 691	124 2166 2837

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive a) Confirmed. (b) Reported by Local Authorities. + Counties affected, animals attacked :- London 3 Board of Agriculture and Fisheries, March 5, 1918 Excluding outbreaks in army horses.

IRELAND. Week ended	Feb.	23			 			Outbreaks 5	13	1	13
	1917		1	1	 			1	15	8	61
Corresponding Week in {	1916				 			3	10	6	. 13
	1915		·		 				13	7	16
Total for 8 weeks, 1918					 			35	106	2	14
	1917		2.	2	 • • • •	1	1	7	124	31	199
Corresponding period in	1916		1	5	 			17	129	31	85
	1915				 			8	121	33	199

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 25, 1918. Note. The figures for the Current Year are approximate only. * As diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1549

MARCH 16, 1918.

VOL. XXX.

CHEMIO-THERAPY OF WOUNDS.

On August 25 last we printed an account of the work of Fromin and Gregoire upon the action of metallic tin and tin oxide against staphylococci in vitro, and the effect of these agents in staphylococcal infections, especially in human furunculosis. In an accompanying note in this column, we remarked that the clinical and experimental results obtained from these drugs suggested many indications for their veterinary use, and mentioned pustular follicular mange as a prominent instance. Mr. F. T. Harvey, in an article published last week. advances the same suggestion, and adds some pertin compounds in human furunculosis. He further points out that a therapeutic combination of metcountry; and it certainly seems to deserve a good response and our financial anxieties would be entrial in our work.

Mr. Harvey then alludes to a subject the importance of which is only beginning to be recognised. It was known four or five years ago that many antiseptics have distinct specific differences in their financial condition of the College. In 1916, and potency against various pathogenic microbes; but the knowledge was hardly general in the pro-fession, and many failed to realise its importance. War experience has popularised it; and every clinician now knows that the successful antiseptic treatment of an infected wound requires a knowledge of what bacterial species are causing the infection. This opens up a wide field, which is now being worked. We have yet much to learn of the for the annual payment of the subscription. I am specific antiseptic potencies of different drugs; and informed by the Secretary that 310 members have we have the further problem of how the knowledge may best be applied in general practice.

Obviously the ideal method of complete bacteriological examination of the contents of a wound is usually impossible in practice. There still remains the possitility that a microscopical examination may at least afford very useful guidance in treatment. It appears not unlikely that such an examination may now be frequently adopted as a routine aid to diagnosis. The clinician who has had a modern bacteriological training, though he may not be capable at once of undertaking the task, should be able to fit himself for it with a little study and practice. If hospital experience proves such an examination to be of real clinical utility, the method must come more and more into general practice; and laboratory knowledge will system atise procedures to ensure its maximum of value to the clinician. Here we may well recall the readiness with which many practitioners who had never before used an oil immersion lens began to do so, and learnt one or two not quite easy methods of

bacteriological technique, immediately upon the enactment of the Tuberculosis Order.

As Mr. Harvey remarks, a successful chemiotherapy offers many advantages over a vaccine one. No one can yet say how far the specific chemiotherapy of wounds may develope; but it is certain to be more important in the future than it has been in the past.

THE ANNUAL FEE (SUBSCRIPTION) R.C.V.S.

Dalegarth, Windermere, 11th March, 1918.

Sir,—A suggestion has been made in your columns sonal experience confirming the French results from recently by one or two members that if the Council of the Royal College of Veterinary Surgeons would only send out a circular to the profession appealing allic tin and tin oxide is now obtainable in this for voluntary subscriptions, there would be a big tirely relieved. As these correspondents seem to have forgotten the facts, I should like to point out that in the Annual reports for many years past the attention of the profession has been called to the again last year, the whole of the profession was circularised, and figures were given showing the exact state of the College finances. In each case the members were asked to contribute voluntarily the sum of one guinea a year in anticipation of the passing of the Veterinary Surgeons Act Amendment Bill. Moreover, every member of the profession has twice been supplied with a Bankers Order form signed these forms and that about 500 others may perhaps be counted as being annual subscribers.

Bankers draft forms will again be sent out this year with the Annual Report, and as this is the most convenient method, I trust members will sign them and save themselves and our Secretary much trouble .-- Yours faithfully,

FRANK W. GARNETT,

President R.C.V.S.

The Editor The Veterinary Record.

VETERINARY MEDICAL ASSOCIATION OF IRELAND.

[NATIONAL V.M.A.—IRISH BRANCH.]

The minutes of the previous meetings having been circulated, were taken as read, and adopted.

The Hon. Sec. read reports of the several Council meetings.

REPORT OF COUNCIL.—January 29.

At a Special meeting of the Council to which members of the Deputation to the Department were invited, held on July 6th, 1917, after a discussion of the report on the Deputation, it was agreed to organise a further Deputation representative of the profession generally, and the Veterinary Officers of the Department, to wait on the Financial Secretary to the Treasury at an early date It was suggested that the Deputation be composed of :— The President of the Royal College of Veterinary Surgeons; the President or Secretary of the National Veterinary Association; Messrs. Howard, Jordan, of Johnstone, Hamilton, Healy, and Prof. O'Connor, as representing the profession in Ireland; two members of the Veterinary Officers Association as representing the Veterinary Inspectors.

It was suggested that the Nationalist and Unionist Parliamentary parties should be approached to intro-duce and support this Deputation. It was further suggested that the Irish members of the Deputation should be paid a sum of, say, £7 7s. each towards their out-of-pocket expenses. The money to be made up by a small donation from each of the Veterinary Associations, and the balance to be made up by the Veterinary Officers of

the Staff.

It was agreed that a circular letter be sent to all the members of the Deputation which waited recently on the Department for their approval, and that the Secretary of the Veterinary Officers 'Association should be asked to call a meeting of his Association for approval of this scheme and selection of members to the Deputation.

A meeting of the Council of the V.M.A.I. was held in the Royal Veterinary College of Ireland on 10th August,

the Royal Veterinary Conege or Ireland on 10th August, 1917, at 3.30 p.m. The minutes of the previous Council meeting were read, approved and signed.

It was proposed by Mr. Watson, seconded by Capt. Reavy, and passed: That the question of the Deputation to the Secretary to the Treasury be postponed until we hear further from the Veterinary Officers Association of the providence of the p tion, and we urge that the matter be fully considered by the Veterinary Officers Association and a definite reply sent to this Association as soon as convenient. A copy of this resolution be sent to the members of the Deputation.

It was announced that the medal awarded for the highest aggregate of marks obtained by a student in his final examination at the Royal Veterinary College of Ireland, was won by Mr. R. W. M. Mettam. It was

approved that the medal be awarded.

It was decided to abandon the August meeting for this year. Mr. Watson promised a paper for the Nov-ember meeting, and Mr. Dunlop to open the discussion.

A meeting of Council was held on Tuesday, Nov. 6th. 1917. Minutes of the previous Council meeting were read and signed.

The following new candidates were proposed:—Mr. J. Herriott, Tullow, proposed by Mr. Holland, seconded by Mr. Howard; Mr. J. J. Cosgrove, Kildare, proposed by Mr. Cushnahan, seconded by Capt. Reavy.

It was decided to have the General meeting in the Gresham Hotel, in the last week of November, the day being left to the Secretary to arrange. Mr. Watson to give a paper on Diseases of the Cow's udder.

The Secretary was instructed to write the Department asking what had been done in the matter of the Deputation re the Inspectors' grievances.

A Special meeting of Council was held on Tuesday, 19th November, 1917, with reference to the case of Burke, unqualified practitioner. Burke having given notice of appeal, the Secretary was instructed to write the Secretary of the R.C.V.S. the desirability of employin Senior Counsel to represent them on the occasion, Mr. Wyly being mentioned. The V.M.A.I. to accept responsibility for the expenses which this procedure may entail.

A Special meeting of the Council of the V.M.A.I. was held at 50 Upper Mount Street on Nov. 29th, 1917, Mr. Norris, President, occupying the chair. The following members of Council were present: Messrs. R. H. members of Council were present: Messrs. R. H. Lambert, Dunlop, Watson, Prentice, Cushnahan, Magee, Capt. Reavy, and Prof. O'Connor. Sec. Apologies for non-attendance received from Mr. Wilkinson and Prof. Craig.

The President, in opening the proceedings, said:—Gentlemen,—We meet to-day under the shadow of a great loss, Prof. Mettam's rather unexpecten death has rendered it necessary to call a special Council meeting at short notice to consider two urgent matters: first, that we should in the name of our Association convey to Mrs. Mettam and family an expression of our deepest sympathy and condolence in their very sad bereavement; and second, to decide what action we should take under the circumstances with regard to our general

meeting convened for Friday evening next.

I believe that I am only voicing the feeling of all our members in saying we have heard of the death of Prof. Mettam with the greatest regret. He was an old and important member of this Association, filling the Presidentship on two or three occasions, leaving an indelible mark on our annals which we all might try to emulate with advantage to our profession and ourselves. He was an arduous worker in the realm of scientific research, keen on everything pertaining to the scientific side of our profession—in fact it might be truly said he consecrated his comparatively short life to the pursuit of science for the pure love of science, and the tragedy of it all is that his career has been cut short in the full tide of brilliant progressive activities and promising possibilities. Prof. Mettam was recognised by all as a great teacher and leader, and although his views and ours might not on all occasions agree, his outstanding ability and honesty of purpose always commanded our respect and admiration. He filled a great place in the veterinary world which will be hard to refill, but the memory of his regretably short life will remain to illuminate the path of future aspirants to leadership in our profession.

On the motion of Mr. Watson, seconded by Capt. Reavy, the following resolution was passed unani-

mously:

"That we hereby place on record our great sorrow at the lamented death of our friend and fellow member, Prof. Mettam, and the feeling of irreparable loss which the Association has sustained. That our Secretary be instructed to convey to Mrs. Mettam and family our condolence and deepest sympathy with them in their very sad bereavement."

It was proposed, seconded and passed, that the November General meeting of this Association convened for Friday next be postponed until the date of the next January meeting, as a mark of respect to the memory of the late Professor Mettam.

A meeting of Council was held on Friday, 11th Jan. Minutes of previous Councils were read and signed.

Replies were received from Mrs. Mettam and Mrs. McKenny, acknowledging the votes of condolence sent by the Council.

A letter was received from the Royal College of Veterinary Surgeons with reference to the nomination form a qualified surgeon, was a successful man treating anifor Mr. Howard on the Council. Instructions were mals. The Recorder said that "long ago, when he was given that Mr. Howard be written to for his consent to act if re-elected, and that a circular letter be sent to man was often more thought of than a trained surgeon.

The President, on opening the meeting, said: "The inexorable hand of death has been busy of late in our ranks. The passing of Prof. Mettam has been followed."

This conviction of £10 is hanging over Burke's head. with tragic suddenness by the death of our old and well know, one of the founders of this Association, and until quite recently took an active part in our work. For many years he was our Secretary—indeed the life and soul of the Association, the man who nurtured its early years, who stuck to it in times of distress, whose consuming interest and untiring energy helped so largely to make it the useful institution it has become to our

Mr. McKenny was an eminent veterinary practitioner, typifying the best tradiiions of what is called the 'old school," which relied so successfully upon material experience and sound common sense in the practical of the practica perience and sound common sense in the practice of their profession. New theories of unproved merit he viewed with a critical and rather cynical eye. He was as you know, always at home in the arena of debate. He has left us a great example of an unselfish life, spent in the interests of our common welfare as a profession, and I would like you to join with me in marking the great sense of loss our Association has met by his Association :death.

It was arranged to hold the Annual General Meeting on Tuesday evening, Jan. 28, 1918, in the Gresham Hotel, Dublin, at 6.30 p.m., to be followed by the annual dinner.

The following candidates were nominated for election as members of the Association :-

J. HERRIOTT, Tullow, proposer: seconder: (Mr. Holland, Mr. Howard).
J. Cosgrove, (Mr. Cushnahan, Cant. Read J. J. Cosgrove, (Mr. Cushnahan, Capt. Reavy. W. E Elkins, Waterford, (Prof. O'Connor, Prof. Craig). W. CATHOART, D.A.T.I., (Mr. Norris, Mr. Cushnahan. J. J. Condon, Knocklong, (Prof. Craig, Prof. O'Connor). A. F. Donnelly, Drogheda,

(Capt. Reavy, Prof. O'Connor). E. MoSWINEY, Cork, (Prof. O'Connor, Capt. Reavy).
J. J. Kelly, Dublin, (Mr. Cushnahan, Mr. Norris).
T. D. Condell, Wexford, (Prof. O'Connor, Prof. Craig).
W. Nyhan, Cahirciveen, (Prof. O'Connor, Prof. Craig). (Prof. O'Connor, Capt. Reavy).

The following were nominated as officers for the year 1918:

President: Prof. J. J. O'Connor (unopposed) Vice-Presidents: Messrs. J. B. Dunlop, W. P. Cushnahan, R, H. Lambert.

nahan, K. H. Lambert.

Hon. Treasurer: Prof. Craig (unopposed).

Hon. Secretary: Prof. O'Connor (unopposed).

Council: Messrs. D. S. Prentice, L. M. Magee, J. S.

McCann, W. W. Malone, M. Purcell, R. H. Lambert, F. J. Daly.

The PRESIDENT referred to the Burke case, tried before

the Recorder, and remarked that it got a very bad press notice. The Recorder's remarks were certainly anything but discourteous towards the profession. He (the President) was present at the time. It was the report in the press that gave the false impression. The Recorder said there was no more important body of professional men than veterinary surgeons, and that he was a very great friend of the late Prof. Mettam. At the finish of the case, when Burke's counsel was putting a farmer into 28th Jan., 1918.

the box to show that this man, although he wasn't in the country he had often heard it said that a local each of the Irish Veterinary Associations requesting the (the President) spoke to Prof. O'Connor when the that an annual subscription be made towards Mr. Howard's out-of-pocket expenses on the occasions of they could not go and ask the Recorder to repudiate his attending the meetings of Council.

The President's spoke to Prof. O'Connor when the that an annual subscription be made towards Mr. report appeared in the newspapers, and he agreed that they could not go and ask the Recorder to repudiate what was in the press, neither could they write to the

if he ever holds himself out to be a veterinary surgeon beloved friend, Mr. James McKenny. He was, as you or describes himself as such. I think it was a good decision. The only thing that was unsatisfactory about it

was the press notice.

Mr. HOLLAND said that the Recorder ought in a certain sense to be more aggrieved than they were for promulgating such a doctrine as that the lucky man was superior as a rule to the professional man. He didn't think it was at all creditable to him.

* This letter from Mr. Norris was not published. It came to hand here after we had the fuller report of the Court proceedings in type, and partly on account of limitanever given to dogmatise, but was always willing to tion of space, and because the independent report, which support his point of view by logical argument. He was, gave almost the same explanation, was in the circumstances thought preferable, the newspaper report was used .-Ed. V.R.

> The TREASURER, Prof. J. F. Craig, M.A., sumitted the following statement on the financial condition of the

Dr. J. F. CRAIG in account with the V.M.A.I., 1917.

	LEDET CALL				11/2
To Balance from 1916			£34	15	7
Subscriptions	£24 18	6			
Arrears paid	14 13	6			
Payments in advance	10	6			
	-	-	40	2	6
Dividends received			4	4	8
Cheque cancelled			2	2	0
			£81	4	9
Cr.					
By Transfer to Bursary account			£1	8	2
Reporting meeting			2	2	0
Audit fee			1	1	0
Secretary's expenses, assistan	at		10	0	0
Printing and reporting proce	edings		3	5	0
Postage, Secretary			3	4	3
Stationery and general print	ing		12	19	6
Contribution to N.V.M.A. (1	916-17)		5	10	0
Balance			41	14	10
			£81	4	9

BURSARY ACCOUNT, to January, 1918. Dr.

1917.	Jan. 1. Dec. 31.	To Balance Proportion	on of inte	ere	st	£48 1	8	3 2
~						£49	11	5
By Er	ngraving Mance—In	Medal vested	£40	0	0	£0	2	6
150	In	Bank	9	8	11	49	8	11
						£49	11	5

Examined and found correct, JOSEPH H. WOODWORTH, F.C.A.

in place of the late Mr. James McKenny.

The President said that, everything considered, he thought the balance sheet was a very satisfactory one. They had a larger balance than last year. During the year they did a lot of work which entailed a good deal of printing; but he did not think there was any item in the statement that they could take exception to. The point about appointing a second Trustee was an important one.

Capt. Reavy proposed that Mr. Norris be appointed Trustee. The proposition was seconded by Mr. Mc Cann, supported by Prof. O'Connor, and unanimously

adopted.

With regard to the point raised as to the printing, the Secretary was instructed to take the matter in hand. On the proposition of Capt. Reavy, seconded by Mr. McCann, the statement of accounts was adopted.

The following members proposed for election were, on the suggestion of Mr. Holland, elected in globo:

J. HERRIOTT, Tullow; A. F. DONNELLY, Drogheda J. J. Cosgrove, Kildare; W. E. Elkins, Waterford; J. J. Cosgrove, Kildare; W. E. Elkins, Waterford; J. J. Condon, Knocklong; E. McSwiney, Cork; J. J. Kelley, Dublin; T. D. Condell, Wexford; W. Nyhan, Cahirciveen; R. W. Flannery, D.A.T.I.; S. W. Haffield, D.A.T.I.; G. W. Tyson, D.A.T.I.; W. Cathcart, Blackrock, Dublin.

THE RULES.

Prof. O'CONNOR mentioned that for some time the rules of the Association went in abeyance. He proposed that the rules as heretofore in force be adhered to. There was some suggestion that they should be altered, but after careful consideration he could not see any reason for altering them.

Capt. Reavy seconded the proposal, which was passed.

THE VICTORIA BENEVOLENT FUND.

Prof. O'Connor made a strong appeal for support for the Victoria Veterinary Benevolent Fund. He was sure that it wasn't through any want of generosity on the part of the Veterinary Surgeons of Ireland that the Fund was not better supported, but by reason of the fact that they weren't sufficiently acquainted with it. The subscription was only 10/6, and it meant a great deal in keeping the wolf from the door of many of their distressed confrères or their dependants.

The election of officers for 1918 resulted as follows:-President: Prof. J. J. O'Connor. Vice-Presidents:
Messrs. J. B. Dunlop, and W. P. Cushnahan.
Hon. Treasurer: Prof. J. F. Craig (re-elected).
Hon. Secretary: Prof. J. J. O'Connor (re-elected).
Council: Messrs. D. S. Prentice, L. M. Magee, J. S. McCann, W. W. Malone, F. J. Daly.

PRESIDENTIAL.

Prof. O'CONNOR, on taking the chair, said he did not intend to deliver an address as the hour was late and dinner was about to be served. He would confine him-

self to a few general remarks.

His first duty was to thank them for electing him President for the coming year. Needless to say he appreciated the honour very much. He was very proud to be the recipient of the highest gift at their disposal, especially when he thought of his many distinguished predecessors whose names were known to them all and were sufficient to remind them of their high standing in the profession. Along with the pride he felt, he had also feelings of diffidence on account of the responsilities of that high office, but he was fortified by the knowledge that he would have the support of the ex-President, the existing past-Presidents, and all the members of the existing rast-Presidents, and all the members of the Association. In these circumstances he felt sure that

Prof. Craig: It will be necessary to appoint a Trustee and find that so many of the past-Presidents had been called away by death from amongst them. Within the past year two of their most distinguished members had died, namely. Prof. Mettam, and Mr. McKenny. They all knew the great loss the Association had sustained by the death of those two eminent associates, and he would simply endorse the eloquent reference made to them by their outgoing President, Mr. Norris.

Like other organisations of a similar kind, the Association was a very important body, having many useful functions to perform. It was a pity, and a matter of very great surprise that so many veterinary surgeons, within its sphere of action, do not realise that fact and support it. There were many ways in which it could do good. He might mention briefly a few directions in which its influence might be exercised. For example, the public services, such as the Army, Board of Agriculture, and Municipal Health Departments. It might suggest improvements in the working of the veterinary branches of these departments, and insist that the members of their profession occupying positions therein re-ceive adequate remuneration, and that their status be recognised as that of men belonging to a learned profession.

Apropos of this they should be on the qui vive with regard to the Ministry of Public Health, to see that they receive due recognition under its administration. Their power in intervening in matters of that kind had been pretty well exemplified in the success which attended the efforts of the deputation which waited on the Department of Agriculture and Technical Instruc-tion with regard to the grievances of their Veterinary Inspectors. At that stage he might say that their best thanks were due to their outgoing President, Mr. Norris, for the way in which he organised and conducted the matter. (Hear, hear).

It might also be their function to take legal proceedrights and imposed upon the public—such as "Professor"
Burke. He was glad to see that they had got a verdict
each time against this impostor.

Another matter which they might attend to was that of veterinary education. It was a very big subject and very debatable. There was one defect that struck him often in connection with the Colleges; that was the want of a farm in connection with the institution where veterinary students, especially those brought up in the towns and cities, could have an opportunity of becoming familiar with the habits and characteristics of the animals on the farm, and where clinical teachers could keep in touch with the animals on which they lecture. Veter-inary Societies should advocate University Veterinary Degrees.

Practitioners, again, might be well advised to take advantage of the Associations to hear scientific papers on practical subjects discussed, and to witness the interesting specimens exhibited and the practical demon-

strations given.

It is the duty also of the Veterinary Associations to see that the profession in Ireland had a representative on the Council of the Royal College—they should make every effort to elect their candidate. But this was a matter which involved a great deal of expense on the gentleman they elect, and the members of the profession in Ireland should guarantee him part, at least, of his out-of-pocket expenses.

They would also like to have a representative in Parliament, but they could hardly hope for that except, perhaps, when they got their own Legislative Assembly,

when they might be able to manage it.

Now, they did not know what the conditions would he would succeed in fulfilling the traditions of the organised so as to be prepared to safeguard their interformer occupants of the chair. It was sad to look back ests and fight any difficulties that beset them. They should present a united front and then their demands,

if reasonable, would be irresistible.

The country members he might say were the backbone of the Association, and everything should be done to study their convenience with regard to the holding of meetings. They should arrange their proceedings for a time to suit them.

Mr. Howard proposed a vote of thanks to the outgoing President. Mr. Holland seconded, and it was carried with applause.

ANNUAL DINNER.

The annual dinner was held subsequently, Prof. J. J. O'Connor presided. The guests included:—

Members: Messrs. Norris, Dunlop, Howard, Holland, Cushnahan, Doyle, Magee, McCann, Cosgrove, Kelly, O'Donaglue, Daly (F), Tyson, Profs. Craig and Brown, and Cant. Reavy, A.V.

and Capt. Reavy, A.v.c.

*Visitors: Dr. Magennis, Major Taylor, A.v.c., Messrs.

O'Connor, L.D.S., Clark, Burry, Rath Holland, Twomey,

Keating, Knightley, Meade and Brady.

The toast of The King having been duly honoured, The PRESIDENT said he had a very important toast to propose—that of the Navy and Army (hear, hear). He thought he was safe in saying that they constituted the most important services in the country. Should they collapse the empire would collapse. They were indebted to them for preventing the invasion of their country by the enemy. He had some connection with the army himself, being an officer, with his colleagues, Profs. Craig and Dunn, in the Royal Veterinary College contingent of the Officers Training Corps. He had also served in the Army Veterinary Department during the South African War.

He had not much to do with the Navy, but he came into contact with it at various ports, in the embarkation

and disembarkation of horses.

They knew that the Veterinary Corps had acquitted itself with great distinction in the present war-it had frequently been mentioned in the public press for the good work it had done. The only drawback at the present time was the lack of men. Enough veterinary surgeons could not be got to fill the vacant positions. However, they had overcome what appeared to be insurmountable difficulties in carrying out their work. They had kept the death rate of the horses at a very low figure—at a figure not much, if anything, above that of peace time, which was a wonderful achievement. They had a gentleman present who was indirectly connected with the combatant forces, for they had the honour of having amongst them Mr. John Holland, father of Capt. Holland, the famous V.C. (applause) who performed such wonderful feats of bravery on the who performed such wonderful leats of bravery on the battlefield. From what he had heard of his achievements he should, in fact, have got several V.Cs. instead of one. He would couple with the toast the names of Major Taylor and Mr. John Holland.

The toast was enthusiastically drunk.

Major Taylor sold he ettended the dinner at the

Major TAYLOR said he attended the dinner at the invitation of Capt. Reavy without any idea of making a speech. He felt honoured at having his name coupled with the toast, but he thought Mr. Holland being his senior ought to have spoken first. As a humble member of the Army Veterinary Corps, he only came here in July after hard soldiering in Gallipoli, Suez Canal, Egypt, and the Somme. He was invalided here as a kind of derelict. After a hard time last year on the Somme he landed in Ireland with a feeling of thankfulness. He still had that feeling of thankfulness. He felt he had arrived amongst people he understood, or people whom he wished to understand. His mother was Irish, he was proud to say. He travelled about Ireland a good deal on his inspection duties, and he could only say he met with nothing but the most warm-hearted hospitality

everywhere he went,

Mr. John Holland, who was received with applause, said he only wished he could appear, as Major Taylor, after hard service abroad. He thanked them sincerely for the compliment paid him through his son's accomplishments. Certainly he should admit that he was legitimately proud of his work. He was pleased to announce that he had a second son serving in Mesopotamia. (Applause).

Mr. Howard proposed "The outgoing officers." He need hardly comment, he said, on the usefulness of the Association. The older men present remembered when the veterinary profession in Ireland was rather scattered to the winds. The man at one end of the country only knew the man at the other end by name, and unfortunately at times didn't have a high opinion of the man who was only 30 or 40 miles away. The founding of the Association had changed all that, and to-day the members throughout the country were known to each other, and were on the best of terms. Apart from that, some very practical work redounding to the credit of the Association had been accomplished. Of course it was probably through the officers they had had in the past that such work was accomplished. They had at the head of affairs some of the men who were pillars of the profession in the past. was sorry they missed that night from their festive board one of these great men—a man who might be really considered father of the Association; he referred to the late James McKenny. The work that Mr. McKenny did for the Association he was afraid would never be sufficiently appreciated. They were enjoying the fruits of his labours to day. The outgoing officers, particularly Mr. Norris, who had guided their ship for the past year, had certainly followed on the lines laid down for them and had helped them over the strenuous

times they had passed through.

The Association had accomplished one piece of work in the past year in regard to the crying grievance of a certain section of their members—those connected with the Department of Agriculture. The institution known as the British Treasury, which held the purse-strings, had at all times considered that this little country was only entitled to kicks, while men on the other side of the channel, even if they were Irishmen, were treated decently. The veterinary officers of the Department in Ireland had the same qualifications and the same class of work—if anything, harder work, than the officers of the English Department, but received much less remuneration in the way of salary and emoluments. To a certain extent that grievance was done away with now, and if for no other reason, the Association was worthy of support. He was sorry they hadn't ten times as many members present to show their sympathy with

the work of the Association and its officers.

The toast was warmly honoured. Mr. Norris, responding, said he was very grateful for the kind way in which they proposed the health of the outgoing officers, and for the very warm reception they had given it. The Presidency of the Association might be a very dignified one, but he didn't mind confessing that he didn't think its duties were very arduous. He certainly had not had a very strenuous year of office. At the same time their activities during the past year fully justified their existence. Mr. Howard touched on some of the losses during the past year. He would just say in passing that indeed they suttained two very severe blows in losing two of their prominent members men who were at their festive board the last time they met, who were most eminent in their profession, and who had left footprints behind that they might do well to try to follow. During the past year, although they had only two regular meetings they were successful in bringing forward very interesting subjects which were thoroughly discussed. The discussion which had been reported in the Veterinary Press reflected credit on

their Association. As to what had been obtained, he was afraid the President was rather too optimistic. But they made a good fight, and he should say he was surprised at the result. Still there was a tremendous lot to be done. They were still suffering under unjust griev ances, and would not rest satisfied until they occupied in every respect as regards emoluments the position of their colleagues at the other side of the channel.

It was sometimes said that Associations such as theirs were more or less narrow or selfish; instituted for the benefit of a small clique. That was so, perhaps, to some extent, but if they worked for the benefit of their members, and gained for them certain concessions, it all tended to the greater efficiency of their profession, and efficiency in their profession ultimately redounded to the public good. Like Mr. Howard, he was a fairly old member of the Association, and could speak from his own knowledge of the very great good it had done for the profession. He had no hesitation whatever in predicting for it a most brilliant future. That depended, however, a good deal on the support it got from the rank and file. Unfortunately, in the past it hadn't got the support they might expect. He hoped in the future the members would come to their meetings and put forward every effort in defence of their interests. (Applause). Capt. Reavy proposed the hew President, and said he

was the right man in the right place. To say anything further in his praise would be "painting the lily."

The President said he was very proud of the position

he occupied as President of that very important Association, especially when he thought of the very distinguished men who had already occupied the Presidential chair. The Association had many important functions to perform in safeguarding their interests, and in promoting veterinary science generally. It had always moting veterinary science generally. It had always been a surprise to him that more of the veterinary surgeons in Ireland did not join some Veterinary Association, and a still greater surprise that some who did join their Society forgot to pay their subscriptions, and thus automatically resigned their membership. He hoped in the future that all the members of their profession in Ireland would unite and stick together for their common good. Union meant strength—as they saw in all the great organisations throughout the

The President then asked Maj. Taylor—a past President of the Midland Association of England, to say a

few words.

Maj. TAYLOR, who was received with applause, said he stood up without the slightest preparation of what he was about to say. He had the honour of being President of the Midland Veterinary Association of England for two years, and in that official capacity he realised the value of Societies of this kind, and he just wished to have a heart to heart talk as to the value of being a member of such an Association.

Major Taylor, proceeding, gave useful advice to the younger members of the profession, and at the conclu-

sion of his remarks received hearty applause.

Mr. Cushnahan, who proposed "The Visitors," said it was a pleasure to see amongst the visitors so many of the other professions represented. After listening to the various musical items I cannot let this occasion pass without making reference to the Profession of Music. To-night we have listened with pleasure to one of Dublin's most promising young tenors, Mr. Leo Meade-Brady. Mr. Clarke-Barry came to-night at great inconvenience to himself, as our guest. His planoforte selections you have just listened to, and if he were not so well known to you all and to Dublin audiences, I should like to say more in his praise. It is particularly gratifying to see the Profession of Medicine and its branch of Dental Surgery so well and ably represented amongst our guests. Dublin's most distinguished

years ago saw the relationship existing between human and veterinary medicine. It was through his instu-mentality that a veterinary college was established in Dublin, as he foresaw also the benefit which both professions might derive through their further linking-up it was his intention to have the veterinary college an extra mural school of the New National University, of which he was then Vice-Chancellor. If his life had been spared I have no doubt that this University would now be conferring degrees in veterinary science.

To-night we have with us an eminent member of the medical profession, Dr. Magennis. I think we are honoured by his presence here; his attainments may not be known to you all, but I may say he is a past President of the Apothecaries Hall of Ireland—one of the oldest licensing medical bodies; he is also a member of the General Medical Council.

Reference was made earlier to Mr. Holland's son, who has won the V.C. I should like to mention in passing has won the V.C. I should like to mention in passing that Dr. Magennis' son, Dr. Jim Magennis, has served with distinction in the French Army. The French Authorities took notice of the work he had done, and I should say that his French medical colleagues made him a valuable presentation on leaving their service.

It is a great pleasure to me to couple with the teast the name of Dr. Magennis. I will now ask you to drink

heartily to the toast of our visitors.

Dr. Magennis in reply said as a medical man he felt he was amongst members of the brother profession. The veterinary profession was closely allied to the medical profession. All the diseases that you treat we treat, and we have certainly the advantage of you in as much as our patients can communicate with us and aid us very considerably by their speech. You have a much more difficult task to perform not being aided by the powers of speech of your patients. He was very pleased that the professions were becoming so much associated. fact he thought they should be really united. One thing he always felt in regard to the veterinary or medical professions and that was that they did not exercise that personality in public matters that they should exercise. If they did they would be a very great power in Ireland. They should be on all the public boards, and should have a representative in Parliament. It was with great pleasure he listened to the excellent advice of Major Taylor to the young men of the profession. He was afraid they could not appreciate as he appreciated such valuable information. The young members of the profession were really the backbone of the Association. If they had got the youth they might be sure that every-thing was bound to flourish. Referring to the Dental profession, of which he understood a representative was present, they were perhaps a little bit annoyed at not having a representative on the General Medical Council, but he could assure them that their interests were very specially looked after on the Council. Concluding, he said that Professor O'Connor, he was sure, would carry on the work of the Association with increased vigour. on the work of the Association with increased vigour. They all knew that he was a man who was in the forefront of his profession. He (Dr. Magennis) was extremely obliged to them, on behalf of the visitors, for the great hospitality they had extended towards them.

The President said he was sure they were all delighted at having Dr. Magennis present. Personally he should thank him for his kind reference to him.

Mr. Clark Barry also responded.

Mr. CLARK BARRY also responded.

The President mentioned that they had a very distinguished veterinary surgeon among them in the person of Mr. Dunlop, who was also the famous inventor of the pneumatic tyre, and he called on him for a short address.

Mr. Dunlor said he might be able to invent a pneumatic tyre but he was not able to speak. He did not know that he would be capable of giving them any adamongst our guests. Dublin's most distinguished vice because it was 25 years since he left the profession. physician, the late Sir Christopher Nixon Bank, many Though it was a very long time it seemed only like

Marie Harris

yesterday, and he still took an interest in the profession from a scientific point of view. If he were to give them advice it would be to look after the interests of their clients and they would look after their interests. If they looked after the interests of their clients they would not require to push their business, it would push them.

At intervals very pleasing musical items were contributed by Messrs. Clarke Berry, Brady, McCann, Tyson, and Howard.

A Mange prosecution.

At Blyth (Northumberland) Petty Sessions Court, on Tuesday, March 5, before Mr. T. Heatley (Chairman), Mr. John Goulding, Mr. Chris. Hunter, and Mr. Chas. Baldwin, Mr. Chas. Alderson (Clerk), and Supt. Irving, Thomas Allen, contractor, was charged with having illegally moved a horse which was affected with parasitic mange, without proper authority. J. P. Isherwood, veterinary surgeon, was charged with authorising the removal of the said horse. Mr. J. L. Frankham, solicitor, Newcastle, appeared for Mr. Allan, and Mr. P. M. Dodds for Mr. Isherwood.

Edward Turton said he was a horsekeeper, employed by Mr. Allan. On Feb. 18 he was ordered to take a horse from the stable, and had it worked for two hours.

It had not been out since.

Mr. Dodds: Who ordered you to take it out?—Mr.

Allan, and Mr. Isherwood gave sanction to take it out. You are in the employ of Mr. Allan; were you present when the veterinary surgeon told your employer about this horse?—I was there when Mr. Isherwood told Wiliam Allan the horse could go to work. Mr. Isherwood said the horse could be put into the field for a few days.

Do you know the police permitted Mr. Allan to do

that ?- I cannot say.

Supt. Irving: The horse had to be washed and not brought into contact with others? -Yes.

Do you know if it was suffering from parasitic mange at the time?—No, it was cured.

Mr. Dodds: Mr. Isherwood was not there when you took the horse out?—No.

Do you know how often Mr. Isherwood saw it?—About every other day, I think, but I am not sure.

Sergt. Burrell said: On Feb. 19 he met Mr. Allan and

asked how the horse was going on, as he had not seen it for several days; and Allan replied that he had had it yoked and worked. He asked Allan what authority he had for doing so, and he replied that Mr. Isherwood had told him to yoke it.

Supt. Irving: Was the horse examined by Mr. Elphick, the Board of Agriculture Veterinary Inspector?—Yes, on the 21st. I accompanied him, and it was not free from

disease then.

Has it been freed since ?- It has not been freed yet. Mr. Allen previously had parasitic mange amongst his horses?—Yes. ulations?—Yes. So that he knew perfectly well the reg-

Did you afterwards see Mr. Isherwood ?-Yes, and he replied: "I told Mr. Allan last week the horse could be washed over; I did not give permission to Mr. Allan,

but told him he would have to give notice."

Mr. Dodds: You were present on the 21st, when Mr. Elphick was there?—Yes. Did he say the horse was not free from the mange?—He would not pass it. He said the disease was about killed, but he was not quite certain. The horse was not fit to be worked on account of his dirty state and the tenderness of his skin.

Sergt. Burrell then read a letter written by Supt. Irving to Mr. Isherwood, asking Mr. Isherwood if he gave Mr. Allan permission to work the horse, and if so, on whose authority he gave that permission: Mr. Isher-wood replied "He told Mr. Allan that if the horse were properly washed he could work him in a week's time.

but he did not give him permission as he had no legal authority to do so.

Mr. Frankham: You say Mr. Isherwood told you that he told Mr. Allan that the horse would be fit for work if he washed and dressed it?—Yes.

The Clerk: There is no case against Mr. Isherwood. Mr. Frankham: You refer to something which took place before the offence ?—No, at the time.

Supt. Irving: Whether or not the horse was free from disease, no one had authority to take it out?—No one

had; and the offence is a very serious one.

Mr. Frankham: I am afraid my client has committed a technical offence, and it would be idle to say otherwise. He should undoubtedly have waited until he got form "B," but I think there is some excuse for this offence. He employed a veterinary to look after the horses which had been under treatment, and that vet. had told Mr Allan the horse had been cured, and that he should give it some exercise. Mr. Allan had removed the horse into a field and thought there could be no harm as the horse was quite cured, and it was taken to the field, which was from 60 to 100 yards from the stables. There had been no attempt on Mr. Allan's part to commit a breach of the law, and he should not punished for a slight error. There were extenuating circumstances in the case, and he asked the Bench to take those facts into consideration.

Thomas Allan was sworn and stated that his horse had been affected with parasitic mange, and he had employed Mr. Isherwood to look after it. On the morning of Feb. 18th he saw Mr. Isherwood who said the horse was fit to work, and would be better working; and told him to yoke it into a cart. Witness then gave instruc-tions for the horse to be taken into the field. He could not have got it into a field without taking it across the highway. He had never made any attempt to evade the regulations, and he told the sergeant honestly that the horse had been yoked, and when Sergt. Burrell had asked him who gave him his authority to have done so he replied Mr. Isherwood. Witness said he knew nothing

about Form "B."

Supt. Irving: had you not an order that it was parasitic mange?—Yes, certainly I did.

Did you notice that the restrictions made it impera-

tive that there must be a notice in writing?—No, I did not see that.

This place where you have the stables is behind Wins-

leydale Terrace ?—Yes.

Were there other horses there !- Yes, but this horse

Is it cured yet?—Mr. Isherwood says it is.

Wm. Allan, son of defendant, said he knew he had to have a form when a horse was suffering from parasitic mange, but did not know about the other form.

J. P. Isherwood, M.R.C.V.S., was sworn, and said he had had the horse under treatment. On the 27th he told Mr. Allan that the horse would be ready for work in a week, and all that was wanted was a thorough washing. He was satisfied that the horse was then free from mange, and all he had done was to intimate that the horse would be able to work within a week. All he could do was to advise Mr. Allan that the horse was free from disease and fit for work.

Mr. Frankham: You say the horse was absolutely cured?—Yes.

And that it would be better if worked !- Yes, because his legs were swelling.

The Chairman said the case against Mr. Isherwood would be dismissed. In the other charge they had taken it into consideration that there had not been any intention to commit an offence, still as it was they fined Allan two guineas.

(Several communications are unavoidably held over.)

ARMY VETERINARY SERVICE

War Office, March 8.

The following is the correct description of Officer whose award was published in *London Gazette* dated Jan. 1, 1918:—

TO BE BREVET LIEUT. COLONEL.

Maj. (actg. Lt. Col.) A. Olver, c.m.g., f.r.c.v.s., a.v.c.

War Office, March 12.
The Secretary of State for War has received the following dispatch:—

General Headquarters, Mesopotamia Expeditionary Force, November 2, 1917.

Sir,—With reference to the concluding paragraph of my Dispatch dated Oct. 15, 1917, I have the honour to submit herewith a list of names of those Officers serving, or who have served, under my command, whose distinguished and gallant services and devotion to duty I consider deserving of special mention.

I have the honour to be, Sir,
Your obedient Servant,
F. S. Maude, Lt.-General.
STAFF.

Lt.-Col. (temp. Col.) W. D. Smith, c.m.g., d.s.o., a.v.c.
Army Veterinary Corps.

Temp. Capt. J. Bell; Temp. Capt. J. Forbes; Temp. Capt. W. H. James; Temp. Capt. H. Quiggen; Bt. Lt.-Col. W. A. Wood; Temp. Capt. R. T. Wood; Capt. W. H. Wortley, Spec. Res.; Lt. T. L. Wright; Shoeing-factory progress.

smith Cpl. J. H. Bunce, 50824, R.F.A.; Farr. Sgt. C. J. Carroll, 34340, R.F.A.; Pte. (actg. Sgt.) G. Taylor, SE/2166; Gnr. J. Want, 62434, R.F.A.

INDIAN VETERINARY SERVICES.

Farr. Staff Sgt. S. Nunn, 32970; Farr. Staff Sgt. A. V. Palmer, 26775; Vet. Asst. Abdul Rahman Khan, 107/18; Naik Syce Bihari, 9; Cav. Elai Bux, 25 Nailbund; Vet. Asst. Ghulam Mohoyuddin, 17; Naik Syce Lontan, 37; Naik Syce Peter, 2; Cav. Subati Bux, 71 Nalbund.

The following Dispatch has been received by the Secretary of State for War :—

General Headquarters, East Africa Force, 11th Oct., 1917.

My Lord,—I beg to forward herewith the names of those Officers, Non-Commissioned Officers, and Men of the Forces under my command whom I wish to bring to your notice for meritorious service in the Field.

I have the honour to be, My Lord,
Your most obedient Servant,
J. VAN DEVENTER, Lt.-Gen.

Temp. Qrmr. and Hon. Lt. R. H. Jameson; Farr. Sgt. E. Dawson, 695; Sgt.-Maj. T. W. Johnston, 529.

Personal.

STROUD.—On March 7, at 59 The Avenue, Ealing, W., to the wife of E. Lionel Stroud. F.R C.V.S.—a daughter.

Mr. W. Irish, V.S., Cosham, Hants, who is suffering from a severe attack of blood poisoning contracted whilst in attendance on a heifer, is now making satisfactory progress.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

		Anthrax		Foot- and-Mouth Disease.		ath Glanders.		landers.† Parasit			Swine Fever.			
	Period.		Out- breaks	Ani- mals,	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- braka	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh tered.	
GT. BRITAIN.	30 13					1		i		1 1		(0)	(4)	tar alling
Wee	ek end	led Marc	h 9	5	5					125	265	4	18	11
Corresponding week in	{	1917 1916 1915		12 16 17	13 18 17			2	2	76 60	175 145	22 4 7	53 87 55	13 214 206
Total for 10 weeks	, 1918	••••		68	76			6	24	1519	2937	177	142	49
Corresponding period in	-	1917 1916 1915		139 133 172	166 154 192	1	24	7 15 7	11 46 11	827 834	1783 2103	294 136 114	411 791 746	137 2380 3043

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 27th March, 1915, inclusive a) Confirmed. (b) Reported by Local Authorities. + Compties affected, animals attacked:— Excluding outbreaks in army horses.

IRELAND. W	eek ende	d Mar. 2			 			Outbreaks 2	13	1	5
Corresponding Wo	eek in $\left\{\right.$	1917 1916 1915			 			 1 2	7 18 10	4 5 6	39 20 49
Total for 9 weeks,	1918				 			37	119	8	19
Corresponding per	riod in $\left\{ ight.$	1917 1916 1915	2 1 	2 5 	 	1 	1 	7 18 10	131 142 131	35 35 39	238 105 248

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 4, 1918.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

THE VETERINARY RECORD

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1550.

MARCH 23, 1918.

VOL. XXX.

A PITFALL FOR PRACTITIONERS.

The correspondent who sent us the report of a mange prosecution at Blyth, which we published last week, informs us that it was taken from the almost verbatim notes of a local reporter, to correct the deficiencies of Press reports. Illness of two of our depleted staff prevented comment on the matter last week, and compelled us to hold over several communications which were due for insertion.

A remark made by the Clerk of the Court before the defence commenced—" There is no case against Mr. Isherwood" summarises the merits of the question so far as the veterinary surgeon involved in it is concerned. Some misunderstanding appears to have occurred between the owner of a horse under detention for parasitic mange and Mr. Isherwood, who treated the animal, with the result that the owner unwittingly committed what seems to have been no more than a technical offence, which his veterinary surgeon had never sanctioned. The conviction of the owner was inevitable; though under the circumstances the penalty might perhaps have been lighter than it was. The acquittal of Mr. Isherwood was equally a matter of course; and in his case it is not easy to understand why the charge against him was brought into court. This is one of the cases in which a veterinary surgeon in rightly held more responsible for the observance of the law than any other man. For that very reason, charges of infringing the law ought not to be brought against veterinary surgeons except on strong evidence; and usually prosecuting authorities observe this rule.

The case is a useful illustration of the necessity that veterinary surgeons should be extremely careful in framing verbal advice in cases of this nature. It suggests also the prudence of advising in writing whenever possible; but even if that were always practicable, it is impossible to avoid supplementing such advice verbally. A verbal misunderstanding seems to have caused all the trouble in this case and one result was to bring undeserved anxiety and expense upon a veterinary surgeon with whom all his colleagues will sympathise.

THE SOCIETIES.

Of course, most of our professional societies are meeting less frequently now than before the war. The great point is that they still continue to meet. and that the meetings, though inevitably fewer and more sparsely attended than formerly, seem still animated by the old spirit, and consequently are as helpful and interesting as ever. We are constantly able to print evidence of this; and the report of the Irish V.M.A.'s meeting last week was a good example. This is wholly satisfactory; and it is to be hoped that the same thing will go on—as there is placed so that the light could be utilised to the best

now little doubt that it will-until conditions resume the normal.

There are members still living who can remember the days when veterinary societies were very few, and little or no interest in them was taken by the majority of the profession. Times have changed greatly since then; veterinary societies have become numerous and for the most part vigorous; and recognition of their value is now general amongst veterinary surgeons. The latter fact is proved by the determination of the profession to keep its societies going, and its success in doing so, which is one of the healthiest present signs of our professional life. The result will be that the societies, having retained so much of their activity, will be be able quickly to resume their previous rate of progress.

OBSERVATIONS ON SODIUM CHLORIDE.

By Capt. W. W. LANG, A.V.C., Secunderabad.

Eliminated in the urine-chlorine combines with potassium—acid from potassium salt unites with sodium, thus removing it from the blood (Bunge)—has caused gastro-enteritis and death in enormous doses-combines in the stomach with lactic acid forming sodium lactate, and sets free hydrochloric acid—unfit as a cathartic for horses and dogs—tends to elevate temperature—red blood corpuscles are augmented—severe hæmorrhage collapse and surgical shock are treated most successfully by injection of hot normal saline solution into a vein, under the skin, or per rectum (Winslow).

Promotes digestion and assimilation, cathartic in ruminants, but i's action in this respect in the horse is violent and uncertain; toxic doses irritant, and produce gastro-enteritis, in cases of homorrhage collapse, etc., intravenous or subcutaneous injections of solution of sodium-chloride prove very useful. (Veterinary Therapeutics, E. Wallis Hoare).

1. Harmorrhage. This animal was apparently all right after castration, but on the following morning he This animal was apparently all was found down, hardly able to rise, rocking himself from side to side, looking round to his flank, and altogether in a sorry plight. His pulse was so weak and rapid that it could not be counted. Examination of the mucous membranes indicated internal hæmorrhage—there was no scrotal bleeding—probably due to rupture of the spermatic artery or artery of cord. How much salt, how much liquid were questions which I could not answer, so it was decided to so place the solution that he could meet his own requirements. This was done by means of the stomach pump and tube. As the case was meant the calt was not resided but when he recovered urgent the salt was not weighed, but when he recovered without further ado, a similar quantity was weighed and found to be one pound, the quantity of water was four gallons.

advantage. During the operation—he was evidently on a slight slope—there was more prolapse of the bowel into the canal (but not outside the wound) than I have ever seen, but this did not trouble me, as I had often withdrawn the bowel and returned it without bad effects. The testicle was found alongside the bladder and removed, the wound being closely stitched. On rising all the bowel had returned to the abdomen. On the following day he was dull but feeding; on the second day he was off his feed and had a temperature of 105° F.

Prognosis: death from peritonitis. It was then thought wise to open and swab out the operation wound, and an assistant was asked to hold up the leg; he did so rather roughly and the patient struggled somewhat. A few minutes after my N.C.O. said, "Bowels down, Sir"; and they were, to a considerable extent. We immediately supported the intestines with four dirty hands-we had been handling the patient rather freely-and returned them: a piece of cotton wool saturated with carbolic solution was inserted into the wound and the animal cast. The wound was again sutured, and towards completion of this the cotton wool was withdrawn—it was found to be covered with $d\hat{e}bris$. The bowel had come through a two days old wound and had, in addition to our dirty hands, come freely into contact with the scrotum and inside of the thigh. The prognosis now appeared certain, but it was decided to try the salt and water again. I instructed my N.C.O. to do so, sure of the outcome.

Judge of my surprise next morning to be told that patient was better, and eating. On visiting him I found him cheerfully munching lucerne, with a temperature of 103°F. The following morning the temperature was normal; and recovery was uninterrupted. Never have I seen such a flow of thin serum as took place from the wound:

and this continued for a week.

On enquiring how much salt he had received, I stood stood aghast when that a similar quantity weighed 2 lb. 2 oz. Needless to say, this amount was never

intended.

Several debilitated animals in the corps—this was a pony corps, the height of the animals being 132 to 13.3 h.h.—were then given 2 lb., but as one died from gastro-enteritis the amount was reduced to 1 lb. This has been proved to be a safe dose for artillery and cavalry horses; the dose for the ponies has been further reduced to $\frac{1}{2}$ lb., because several animals, emaciated as the result of parasitic infection, were adversely affected-colicky pains, etc.

3. Diarrhæa. In this case the fæces were extremely liquid and fœtid, and as the patient was very thin the prognosis was doubtful. With a view to determining the value of salt solution in such cases he was given 1 lb. sodium chloride in four gallons of water, and allowed to drink flour gruel. He was so weak the following day that he had to be lifted and put into slings. Within 24 hours the fæces were nearly normal, the foul smell had disappeared, and in a few days recovery was

complete without further treatment.

4. Ovariotomy. Surgical shock. In two out of three cases the patients appeared to be in a state of collapse some time after the completion. I am satisfied they were cases of surgical shock, as I have seen many cases of chloroform poisoning in the hot climate of Mesopotamia, indicated by increasingly violent involuntary struggling, stertorous laboured breathing and profuse perspiration. (In any case I should treat both conditions similarly). These animals responded well to stimuli in the form of flogging with a rope, and even sat up, but when left alone the breathing became shallower and shallower until I felt sure it must soon cease. Each patient was given ½ lb. of salt in two gallons of water per stomach tube, and in an incredibly short they were on their feet.

As a precautionary measure the third patient was treated likewise with satisfactory results.

5. Double Pneumonia. One of the above patients developed a temperature with accelerated breathing and showed signs of irritation at the seat of operation (per vaginam). So with a view to warding off peritonitis the salt treatment was continued. As she was possessed of so violent a temperament that it was impossible to train her-she was a remount-a close examination was not indicated. Events proved, however, that the temperature was due to pneumonia (mechanical?) and here lies a pitfall. In a standing position gravitation through the tube into the stomach is easy, but it is difficult to obtain when the animal is recumbent. Of course the pump is always used with these large quantities of liquid, but care must be taken that the tube is empty before withdrawal, otherwise a considerable quantity is deposited in the pharynx. I consider this is what happened in this case. Ausculation and percussion—she rapidly became placid—revealed hepatisation of the lower half of both lungs; but, nevertheless, she made good recovery

	Case V	7.		Case V.	I.
Oct.	M.	E.	Oct.	M.	E.
6	*	101.7	9	*	102
7	* 101.7	101.2	10	*101	101.8
8	* 102	*105	11	100.4	102.4
8	* 102	102	12	102 m	101.4
10	*103.7	*103.3	13	102	+
11	† 103	102	1	103.6	102
12	104.6	104.6			102.6
13	103.2	102.8	14	101.4	101.6
14	102.2	102.9	15	102	101
15	101.6	101.9	16	100.7	101.1
16	101.2	101	17	101.5	100
17	100	100.4	1.00		544
18	100	108	1		

Salt. * ½ lb: † 1 lb: m muco-enteritis.

Appended is her chart; it will be observed that she received 41 lb. of salt in six days. A glance at this will give some interesting information; compare the temperature with the administration of salt.

6. Muco enteritis. Three days after the operation a second of the Ovariotomy patients showed colicky pains and a temperature. Her mucous membranes were brick-red and she passed a considerable quantity of mucus. Diagnosis was muco-enteritis. She was given 1 lb. of salt in the usual quantity of water, and in the midst of it Ol. lini. Oj. and Ol. terebinth 1 oz. The purge did not act for over 36 hours, but next day her temperature and pulse suddenly increased, and she was very dull. Another 1lb. of salt was given, and in three hours the temperature dropped from 103.6° to 102° F., though it went up again slightly towards evening; and she was quite cheerful and snappy. On the following day the bowels acted freely (no more mucus) and recovery was complete soon after.

Her chart is also appended, and it, too, is interesting. 7. Dosage of Salt experiment. With a view to proving the safety or otherwise of these doses two horses, both cast for destruction, were each given 1 lb. in four gallons of water daily for 15 consecutive days. There was profuse diuresis; naturally, their appetites were voracious, their skins shone, and the increase in weight, though the N.C.O. in charge declared there was no increase in

rations, was extraordinary.

One of these cases had complete paralysis of the rectum and bladder, partial paralysis of the hind legs, and wasting of the gluteal muscles. Post-mortem revealed old-standing fracture of the body of the sacrum; three of the spinous processes and both angles of the croup. By the end of the treatment she had recovered nervous control of the rectum, though for weeks previously her fæces had to be removed by hand.

The other case was diagnosed as fracture of the pastern, and post-mortem disclosed an unhealed fracture. In this case both the thickening and lameness decreased.

In the earlier stages of these experiments, when 2 lb. of salt were given regularly to all animals, till the pony already mentioned died (no artillery or cavalry horse was any the worse) over 20 gastrophilus equi were found, dead and bleached, in the fæces in several instances. Also in at least seven or eight animals distinct attempts at vomition were noticed; in two animals during administra-tion the fluid was ejected through the nostrils, evidently it had come up alongside the tube. Accordingly one or two ounces of ordinary mustard—the table article—were added to the saline solution to induce attempts at vomition with the accompanying regurgitation throughout animals appeared so severely shaken for a day after that this was discontinued.

Further observations proved that there is no anthelmintic action when 1 lb. sodium chloride is the dose given. The remark applies to Gastrophilus equi, Spiroptera megastoma the Strongylus armatus and tetracanthus.

General remarks. The above cases are given in their order of happening with a view to showing how the slight tinge. whole series of experiments came about—and they have all been made during the last five months. It is not contended that every case was correctly interpreted, but the results have been so extraordinary that publication seems desirable.

The action of the large dose-smaller doses are not so satisfactory-appears to be febrifuge, alterative, absorbent, and tonic to an extraordinary degree. Nor was there any bad effect noticeable on post-mortem in the two experimental animals.

The antiseptic action of saline solution is said to be slight, so it is assumed that the results obtained in the diarrhœa, muco-enteritis and threatened peritonitis cases were due to increased osmosis and elimination, plus dissolving of mucus in the first and second. The doses given do not cause catharsis but rather tend to constipation, while the action of linseed oil as a purgative is delayed till the second or third day by the addition of salt; even then it is not purgative but rather lubricant. Also the nauseating effect of the oil appears to be nullified, as the appetite is not impaired.

Many debilitated animals (cause unknown) have put on condition at an extraordinary rate, and there appears to be no reason why cattle feeding should not be accelerated in the same way. I remember reading some years ago something about experiments with salt added to the food, and its value was then proved. During a recent outbreak of rinderpest several cattle were given 1 lb. of salt in solution, but beyond the fact that they readily swallowed the tube when introduced through a wooden gag in the mouth, no knowledge was gained.

In strangles the abscesses appear to run a much more benign course; they are not so hard and painful; and in cases of large suppurating wounds the results are very satisfactory. The flow of lymph is increased considerably and the surrounding swelling rapidly

It occurs to the author, too, that the administration of large quantities of sodium salts-sodium chloride or citrate, might be of great value in the treatment of such cases as pleurisy with hydrothorax, mammitis and laminitis, by rendering the lymph thinner, reducing the cagulability of the exudate, thus retarding organisation and aiding absorption. Metritis, too, might be considerably influenced, while abdominal operations may be made much more "safe."

Sodium chloride does not appear to be of any value in purpura hæmorrhagica—the exudate is increased; in parasitic infection-already mentioned; nor in tetanus. In the last-mentioned the condition of the patient became no worse—the attack was moderately severe when admitted to hospital—but convalesence appeared as prolonged as usual; he did, however, put on condition

rapidly from the very beginning.

From the experience of several hundred animals, 1 lb. for artillery and cavalry horses and ½ lb. for ponies, well diluted and given per tube appear to be quite safe. In cases where the appetite is very much impaired it is advisable to begin with smaller doses and increase afterwards.

We appear to have a great advantage over the medical profession in that sodium chloride does not cause emesis in horses and cattle, and they seem to tolerate relatively the stomach, but the results were not constant, and the much larger doses, given by the mouth, too, and not in animals appeared so severely shaken for a day after that enemata; and one large dose in the 24 hours appears to be sufficient.

With a view to finding out how far saline solution was likely to get in a given time, on animal which was destroyed had given to him a bucketful of water coloured with methylene blue 15 minutes prior to destruction. On post-mortem the execum was found distinctly stained, and the first part of the double colon showed a

ON THE STOMACH TUBE.

This is one of my most cherished possessions, and I cannot conceive of anyone drenching an animal by the old method once he has used the stomach tube. I consider internal medication by the tube quickest, easiest, and safest-the drenching bottle now seems crude, cruel, and dangerous-and if proof is required let me hasten to say that in experimental salt treatment in ponies which were debilitated as a result of parasitic infection, 104 animals have had pumped into them 208 gallons in five to six hours. This was continued daily for a week. I purchased my tube two years ago for the relief of gastric tynipany and impaction chiefly, but, curiously enough, I have seen only one case of the former since.

Though the technique of the tube is described in textbooks a short description may not be out of place here. I prefer the nasal route (left side), taking care that the end of the tube is kept well on the floor of the nostrilthe passage between this, the turbinated bone and the septum is very narrow. My tube has a curve through being kept coiled, so during the nasal passage the curve is kept on the upper side, for the above reason. On reaching the pharynx the tube is given a half-turn, which points the end in an upward direction and enables it be carried over the glottis and into the cesophagus without waiting for the swallowing action, subject, of course, to the head being kept in its normal position relative to the neck. The complete turn is then made, rendering the complete passage down the cosophagus easier. Injury to the mucous membrane with hæmorrhage may result during extraction, but this can be avoided by pulling the tube out by the left hand at right angles in an upward direction, at the same time pressing the tube down at the nostril by the right hand to prevent discomfort.

Slippery elm bark as a lubricant is recommended, but I find that all that is necessary is to thoroughly wet the tube. The deleterious effect of an oily drench may be obviated by thoroughly wetting the inside of the tube before use as well as carefully washing out afterwards.

Messrs. Haussman and Dun, 708 South Clark Street, Chicago, supplied the outfit, and if my memory does not fail me, the pump, single tube, and postage, cost eleven dollars prepaid.

ABSTRACTS FROM FOREIGN JOURNALS.

Cases of Equine Anthrax.

José Izquierdo records the following five cases:-The first was only presumably one of anthrax. It occurred in August, 1916, the subject being a three-year old horse. The author found the animal in extremis; and death took place a few minutes later. Post-mortem examination was not possible; and at the time the author was unable to form any history given him led him to suspect pulmonary

Two days after the first case, the author was called to a twelve-year-old mule. He found the animal presenting slight colicky pains, with intervals of tranquillity. The pulse was 58 per minute, the temperature 101.3° F., and the respirations almost normal. These symptoms, and the fact that the mule sometimes assumed the urination position, led the author to suspect a slight gastric

indigestion. Treatment consisted in warm fomentations to the abdomen and loins, the administration of sedatives, and the injection of arecoline. These measures proved unavailing; and the mule died in about 24 hours. The temperature did not rise before death, neither did the colicky pains become intensified, nor any symptom become aggravated. On the other hand, the temperature fell suddenly to 95.5° F. one hour before death.

Post-mortem examination revealed a great quantity of coagulated blood, averaging from 4 to 5 centimetres in thickness, in the cæcum and in part of the colon. No particular lesion was found in the other organs; but the hæmorrhage in the cæcum, combined with the rapid evolution of the disease, forced the author to the diagnosis of

The third, fourth, and fifth cases occurred at the The third case was an eight-year-old mule, which died in 22 hours, and which it was not possible to treat. The fourth was a twelve-year-old stallion, which lived for 30 hours. This case was treated without result with injections of turpentine and physiological serum. Irrigations of camphorated oil were also given, producing a rapid but slight improvement. The fifth case was a thirteenyear old stallion, which recovered.

The symptoms of these last three cases were the same as those seen in the second case; and postmortem examination of the two which died also revealed the existence of intestinal hæmorrhage, as seen in the second case. There was not the least doubt that the infection was anthrax; for the diagnosis was bacteriologically confirmed at a provincial laboratory

The fifth case, which recovered, was treated with injections of turpentine, sodium salicylate and salol internally, irrigations of boiled salt solution, and hypodermic injections of camphorated oil. The latter remedy was used in the proportion of two

parts of camphor to ten of olive oil; and 10 c.c. was injected every two hours. Other treatment adopted consisted of milky diet, physiological serum, and febrifuges. This treatment was followed for twelve days, at the end of which the animal had so far recovered that the temperature was normal and the appetite had returned. Complete recovery followed in due course.

Bearing in mind the slight improvement from the use of camphorated oil in the fourth case, the author believes that the recovery in the fifth was due to the action of this agent. He is supported in judgment as to the cause of death, though the history given him led him to suspect pulmonary always noticed evident improvement and great vivacity of the animal after the injections. One day, indeed, he found the animal down and almost moribund; and, injecting 15 c.c. of camphorated oil, was surprised to see the patient rise ten minutes afterwards, notably improved. Afterwards he regularly gave 15 c.c. every two hours, and observed that the subsequent improvement was more pronounced at each injection, till complete recovery was attained .- (Revista de Higiene y Sanidad Pecuarias).

SPONTANEOUS RECOVERY FROM JOINT-ILL IN A RECENTLY-BORN MULE.

S. B. Bardón reports the following case, which he regards as worthy of record on account of the extreme gravity of joint-ill when appearing in recently-born animals. The subject was a mule foal.

The first symptom of disease was noticed on the fourth day after birth, in the form of an intense lameness of the right fore limb, for which the owner could not account. All that Bardon could discover by a careful examination was a warm, painful inflammatory lesion in the scapulo-humeral joint of the limb, and a little phlebitis of the umbilical cord. He suspected the nature of the case, but could not feel absolutely certain at that time. The next day the elbow and knee joints of the same were similarly affected; and at the same time a slight arthritis in both hock joints was noticed. Bardón no longer had any doubt regarding diagnosis, and gave a most unfavourable prognosis.

The disease, however, far from following its usual evolution, remained localised in the joints previously named. At the end of three days an abscess the size of a nut formed upon the external aspect of each hock; and both abscesses opened and gave exit to the pus they contained. The inflammatory lesions of the right elbow and knee joints terminated by resolution. In the right scapulo-humeral joint alone a little swelling persisted, formed by a small quantity of serous discharge in the synovial cavity of the joint. This disappeared after only two applications of a blistering ointment, with an interval of six days between them.

As the normality of the joints became restored, the umbilical phlebitis subsided and finally disappeared. The general condition of the patient did not alter during the course of the infection.

Microscopic examination of the pus was not

W. Constitution

possible; but Bardón regards the symptoms as placing the diagnosis beyond doubt. The spontaneous and complete recovery, without any treatment except that of the shoulder joint in its convalescent stage induced him to record the case.—
(Revista de Higiene y Sanidad Pecuarias).

W. R. C.

DEFINITION OF VETERINARY SURGEON—SOUTH AFRICA.

To the Editor of "The Veterinary Record."

Dear Sir,—In continuation of the previous correspondence on the above subject, I enclose herewith copies of further correspondence for favour of publication in your valued journal.

I also enclose copy of a reply to a Government Veterinary Surgeon, re the Status and Pay of Government Veterinary Surgeons, Agricultural Department, Union of South Africa.—Yours faithfully,

J. IRVINE SMITH, M.R.C.V.S., Colonel.

P.O. Box 1620, Johannesburg. 6th February, 1918.

Copy.

Union of South Africa—Unie van Zuid-Afrika.
Offices of the Senior V.O.,

Pietermaritzburg, Natal. 17 Sept., 1917.

J. Irvine Smith, Esq., Johannesburg.

Dear Sir,—I beg to acknowledge, with thanks, the receipt of correspondence re Administrator's Notice, 257/17, and regret that I have not done so earlier.

I may say at once, that I agree with Mr. Borthwick's view of the question, as I think the intention is clear, viz., that in the absence of a Veterinary Surgeon the matter referred to should be reported to the other officials named, i.e., the Stock Inspector or Magistrate—those with whom he is usually associated in this country in his duties in connection with the suppression of disease, and really I think we understand the position well enough to take the reasonable view of the position in the circumstances.

I also think that the practice to which exception is taken is not an unusual one in Government Regulations, and is not confined to our profession. I have a somewhat similar case before me of Regulations issued under the Natal [Public Health Act, 1915, and it still stands, where "Health Authority" "means and includes" in addition to the Minister, Magistrate, Medical Officer of Health, "any other Government Officer," apparently no matter what the status of the last named may be.

Yours faithfully, (Signed) W. M. Power, Senior V.O.

Johannesburg, 20 Sept., 1917.

W. M. Power, Esq., Senior V.O. Maritzburg, Natal.

Dear Sir,

Re Definition of "Veterinary Surgeon."

Replying to your favour of the 17th inst., might I state that it is immaterial as to what is the "intention": the fact remains that a "Stock Inspector" or a "Magistrate" can in future legally claim to be described as a Veterinary Surgeon, and that this unfortunate state of affairs is due to an ill-considered Gazetted Regulation. The "associations," the "objects, the "intentions," and the "reasonable views" of the position mentioned by

you are beside the all-important point of legally permitting any unqualified person to call himself a "Veter-

inary Surgeon."
Read the Charters of the Royal College of Veterinary Surgeons from the year 1844 to 1914, and you will realise the enormous amount of toil, energy, and expense your veterinary ancestors incurred in fighting, striving for, and ultimately securing the recognition of Veterinary Art by law as a profession, and the safeguarding of the title Veterinary Surgeon, or Practitioner of Veterinary Surgery, or of any branch thereof. In fact, it sends a glow of pride through one, and one feels an intense admiration for the unselfish service these men rendered the profession. Compare this highly creditable work with the ease and reckless flippancy with which a few Members in South Africa can fling away these hard-earned distinctions, privileges and exemptions enjoyed by the Veterinary, Medical, and other professions.

by the Veterinary, Medical, and other professions.

Your analogy quoted from the Natal Public Act, 1916, if it had been correct, merely proves an adage, "That two wrongs do not make a right"; but its inaccuracy goes further, and gives point to James Ward's statement, "An analogy is a good servant but a bad master; for, when master it does more to blind than previously it did to illuminate."

If the Regulations framed under the Natal Public Health Act had defined "Medical Authority" or "Medical Officer" to mean and include Magistrate or other unqualified person, I feel certain that within one month of its promulgation the Government of South Africa would have been compelled to alter the definition. Not one single medical man would have been found wavering or deflecting: they would have all sunk their petty differences and presented a solid front in defence of their rights.

"Health Authority" may mean anything or nothing, excepting in so far as the Government may care to define it in the *Gazette*. A scavenger may be a "health authority," and he is very useful in many ways, but he is not regarded by law as a member of a profession.

is not regarded by law as a member of a profession. Since Union the Veterinary Profession has gone to sleep, and the disastrous results of this somnolence is already too obvious. There has been, and there is, a continual filching away by laymen of veterinary duties. The inadequate payment of Veterinary Officers in the Government Service is an instance of outstanding neglect. In the Transvaal the minimum salary was reduced from £500 to £320 per annum. Loss of professional status has followed in its trail, for carpenters, plumbers, and blacksmiths receive a higher pay. And now comes the "grand finale" to all this inaction by legally conferring on laymen the title of "Veterinary Surgeon" by Government notice. Who is responsible for this state of affairs? Posterity must be given the name or names so that at any rate they will be in a position to curse or praise him, or them, as they may desire; and I feel sure the disappointment will be great if you are found on the side of inaction and retrogression.—Yours faithfully,

(Signed) JAS. IRVINE SMITH.

Copy.

Union of South Africa—Unie van Zuid Afrika.

Office of the Kantoor van de Senior V.O.,

Pietermaritzburg, 22 Sept., 1917.

J. Irvine Smith, Esq., Johannesburg.

Dear Sir,—Your letter of the 20th inst. duly received. I am still in communication with Mr. Borthwick on the question, and may say that I have made a suggestion which, if adopted, should, I think, meet the objections raised to the wording of the present regulations.

Yours faithfully, (Signed) W. M. Power, Senior V.O. (Natal). Johannesburg, 28th January, 1918.

To Mr. -

Government Veterinary Surgeon, South Africa. Status and Pay of Veterinary Officers Agricultural Department.

Dear Sir,—I beg to acknowledge receipt of your letter, re above, dated 24th inst., and in reply I may state that this subject does not directly concern me, and I am only interested in so far as it affects the status of the pro-

fession as a whole.

During the time I held the office of Acting Principal Veterinary Officer of the Transvaal Agricultural Department some 15 years ago, I insisted on and succeeded in securing the minimum salary of £500 per annum with annual increments for all Transvaal veterinary officers. I am not conversant with the reasons or circumstances for the re-adjustment of this minimum rate, but I understand that when Union took place, instead of the salaries of the Cape, Natal, and Orange Free State veterinary officers being raised to the above-mentioned figure, the remuneration of the Transvaal veterinary officers was dragged down to the level of that of the Cape, namely, £350 per annum, which is less than the wages of a plumber, carpenter, or any other tradesman in Johannesburg.

I refrain from placing the blame at the door of anyone, but I do trust the veterinary officers of the department will unanimously take the matter up, and speak out with no uncertain voice before the Commission and

claim their minimum of £500 per annum.

A separate Department. So long as the Veterinary Branch is graded as a division of another department, so long will they remain subservient. On this subject I hold that veterinary surgeons should not be prepared to accept or submit to the dictum of any other Department. They should maintain, and rightly maintain, that by their special training, they are capable of keeping their own house in order, and they should decline the interference of any other experts—agricultural or otherwise. The profession fully appreciates the responsibility devolving upon them; they should also recognise that the only authority standing above them should be the Minister for Agriculture, and that the Principal veterinary officer should be the head of the veterinary department directly responsible to the Minister. Experience shows that this is the only economic, practical, and scientific solution of the problem, and how very dangerous it is to continue to openly violate this fundamental

The Veterinary Department in no way clashes with the Agricultural Department, nor is the one subordinate to the other; both should confine themselves to the special duties they have been trained to deal with, and the only duties they have in common are those of watching over the interests of the stockowner and the public weal, for which purpose co-operation on both sides is

It has long since been recognised that veterinary science is a highly specialised work, and that no other professional man or layman can possibly take the place of the trained expert in veterinary matters. The tutelage of the agricultural expert in veterinary matters is not required, and it is a matter of surprise to find that the profession in South Africa has permitted it for so long, as it is recognised on both sides that non-interence with each other's sphere of activity is essential for progress, development, and efficiency.

It is conceivable that occasions may arise when representatives from the Agricultural Department and Veterinary Department may have to consult together, but for an agricultural expert to attempt to control or supervise the work of veterinary surgeons tends, without any manner of doubt, to create a state of affairs

bordering on the ludicrous, and it is only by making combined, unanimous representations through legitimate channels to any Commission that may be appointed, that the profession will ultimately be given its proper recognition on similar lines to the Medical Department of the Union of South Africa.

The address of the Secretary of the Transvaal Veteri-

nary Medical Association is as follows :-

Mr. D. Kehoe, Hon. Sec. Transval Vety. Medical Association,
P.O. Box 593 Pretoria.
With regard to the Administrator's Pound Notice,

this is under consideration at present, and we have every reason to believe that it will be cancelled in the

With kindest regards, believe me, yours faithfully, (Sgd) Jas. Irvine Smith.

ARMY VETERINARY SERVICE

War Office, March 13.

The following names have been brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war :-

Temp. Qrmr. and Hon. Lt. (temp. Capt.) J. H. Ashton. Qrmr. and Hon. Capt. T. F. Campey. Major E. Day, ret. pay, late A.v.c.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Mar. 8.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. J. E. L. Still (T.F.), relinquishes the rank of temp. Maj. on alteration in posting (Feb. 22). To be temp. Lieut:—W. L. Marshall (Feb. 18).

Temp. Qrmr. and Lt. to be Hon. Capt. :- G. J. Stacey (Jan. 6).

Temp. Capt. F. V. Perry resigns his commn. (Mar. 10). Capt. A. B. Mattinson, Spec. Res., relinquishes the temp. rank of Major on ceasing to be empld. as Comdt., School of Farriery (Feb. 1).

Capt. S. E. Holmes, Spec. Res., to be actg. Major while holding the appt. of Dep. Asst. Dir. of Vety. Servs., (Jan. 17).

Temp. Capt. S. S. Herbert relinquishes his commn. on account of ill-health, and is granted the hon. rank of Lieut. (Mar. 13).

Bt. Maj. J. W. Rainey, o.B.E., Res. of Off., to be temp. Lt.-Col. whilst empld. as Asst. Dir.-Gen. A. Vety. Serv. (Feb. 25).

Temp. Qrmr. and Hon. Lieut. to be Hon. Capt.:-C. M. Taylor (Feb. 7).

Capt. R. H. Stephenson resigns his commn. on account of ill-health, and is granted the hon. rank of Capt. (March 13).

March 15. Maj. C. Rose is removed on acct. of ill-health (Mar. 16)

March 16. Temp. Lt. to be Temp. Capt.:—W. Reidy (Mar. 1). Temp. Qrmr. and Hon. Lt. to be Hon. Capt.:—J. F. Meredith (Mar. 16).

March 18. Col. (temp. Brig.-Gen.) C. E. Nuthall, C.B., A.V.S., retains the temp. rank of Brig.-Gen. whilst empld. as Dir. of Vet. Servs. in India (Jan. 26). To be temp. Maj.:—Capt. A. B. Mattinson, Spec. Res., while comdg. a Res. Vety. Hosp. (Feb. 7).

V. S.

March 19.

Temp. Lt. to be temp. Capt. :- F. C. Simpson (Feb. 1).

Temp. Lt. to be temp. Capt. :- D. G. Grealy (Mar. 6).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

March 11. Capt. J. R. Welsby resigns his commn. (May 30, 1917) substituted for that which appeared in Gazette of May 17, 1917).

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918 :-

	£1	1	0	
J. Buscomb, Stroud	1	1	0	
T. M. Doyle, Capt. A.v.c.	1	1	0	
W. B. Gardner, Drogheda	1	1	0	
B. Gorton, Manor Park, E.	1	1	0	
H. J. Hughes, Capt. A.V.C.	1	1	0	
T. J. Kenny, Lieut. A.v.c.	1	1	0	
J. A. T. Kenyon, Capt. A.v.c.	1	1	0	
H. G. Lepper, Aylesbury	1	1	0	
W. Litt, Whitehaven	1		0	
H. McIntyre, Leek (1917, 1918)	2	2	0	
T. F. O'Brien, Capt. A.v.c.	1	1	0	
R. B. Palmer, Capt. A.v.c.	1	1	0	
H. W. Robson, Laurencekirk ('17, '18)	2	2	0	
F. B. O. Taylor, Stratford-on-Avon	1	1	0	
T. Wilkinson, jun., Lanchester	1	1	0	
E. R. H. Woodcock, Capt. A.v.c.	1	1	0	
J. S. Young, Capt. A.v.c.	1	1	0	

H. G. Bowes, LtCol. A.v.c.	£1	1	0
T. J. Brain, Cheltenham	1	1	0
F. P. Carter, Bradford	1	1	0
J. B. Chadwick, Manchester	1	1	0
F. H. W. Cundell, Swindon	1	1	0
T. Dalling, Capt. A.V.C.	1	1	0
J. J. Hilliard, Major A.v.c.	1	0	0
C. S. Hunting, Loughborough	1	1	0
P. T. Lindsay, Capt. A.v.c.	1	1	0
W. E. Litt, Shrewsbury	1	1	()
S. W. Marriott, Capt. A.V.C.	1	1	0
W. Roots, London	1	1	0
T. A. Rudkin, Grantham	1	1	0
H. Thompson, Aspatria	1	1	0
Previously acknowledged	600	9	0
	_		_

DETERMINING SEX OF GUINEA-FOWLS.

£636 2 0

Peculiar questions are frequently asked by clients regarding animals, the writer was recenly asked how

regarding animals, the writer was recently asked how to distinguish between the sexes of guinea-fowls.

This appears to be one of the puzzles of the poultry yard, and more than usual care has to be exercised to prevent errors. It has to be borne in mind that it is the hen that utters the call, "come back," so often associated with this fowl. The cocks are generally more fully deliberations of the cocks are generally more fully deliberative. veloped and more round in form than the hens: this is more observable in the plumage than when plucked.

They have a fashion of arching their backs and getting

on their toes, and strut along.

They are the more aggressive to intruders, and, perhaps the most distinctive mark of all is that the wattles of the cock are considerably larger than those of the

The writer will be interested to learn if there are any other points of difference to be observed without handling the birds.

Contagious abortion in Aberdeenshire.

Some time ago Mr. William Brown, M.R.C.v.s., Aberdeen, was asked by the Executive Committee of the Aberdeen County Council to report on the question of the prevention of contagious abortion. Mr. Brown's report was submitted at a recent meeting of the committee. Mr. Brown states that at the request of the committee he visited London and had a conference with Sir Stewart Stockman, of the Board of Agriculture and Fisheries, on the subject. He discussed the question of a compulsory notification order with Sir Stewart Stockman, and they quite agreed that if such an order was adopted as would ensure any marked degree of mitigation of the disease, it would prove quite unworkable. The extended period of restriction on the movement of infected animals would be such as to be ruinous to the farming industry as a whole, and further, for technical reasons which he specified, it was very questionable whether any order would do much good. The disease was so widespread in this country that they could never hope to stamp it out, but the results of protective vaccination were such as to merit the opinion that the malady could be controlled, and enormous losses pre-

The Chief Veterinary Officer favoured the widespread use of vaccine for this purpose, but stipulated very strongly that it should only be used in herds where the existence of the disease was established, and that it should on no account be used on a healthy herd. He also preferred, that in districts where the treatment was to be carried out on a big scale, the local administration should be in the hands of a responsible body. Although the scientific staff of the laboratory had been greatly depleted owing to the war, Sir Stewart promised that if the County Council of Aberdeen were to adopt a scheme to assist stockowners in the county, he would do all in

his power to supply as many doses of vaccine as possible.

Mr. Brown proceeded:—"In my opinion the County
Council would be doing valuable work in increasing the
numbers of live stock, by preventing the enormous
annual loss from this malady, if they adopted a scheme
for preventive treatment." Such a scheme should be considered a temporary one, calculated to educate the stockowners to appreciate the value of this immunising process, and when they recognise its value they would be expected to have it carried out by their own veterinary surgeons, at their own expense, when they found it necessary. If the scheme prove to be too expensive it could be at any time discontinued. Mr. Brown added that on his return from London he visited Mr. Hugh Begg, F.R.C.V.S., veterinary inspector to the County of Lanark, who had been doing this work throughout that county for some time. He suggested, and he (Mr. Brown) agreed with the suggestion, that the veterinary inspectors should do the work of their own clients. A good deal of expense and time could be saved if in out-of-the-way districts farmers who had animals ready for vaccination were asked to bring them to an infected farm for treatment. Veterinary surgeons should be asked to arrange for this as far as possible. Mr. Begg felt that the farmer should be called on to pay so much, but doubtless if the county were to pay the whole cost at the start a greater

number of farmers would take advantage of the benefits of the scheme, and the value of treatment would therefore more quickly become known. That, however, was a question for the Council to decide. The report was approved.— $N.\ B.\ A.$

Personal.

MORGAN.—On March 14, at South House, Faversham, to the wife of Ernest Morgan, M.R.C.V.S.—a daughter.

OBITUARY.

James Hart, M.R.C.V.S., Mile End, Stockport, Cheshire-Graduated, Edin: Nov., 1879.

Mr. Hart died 2nd March, 1918, aged 78.

A. C. TURNER, M.R.C.V.S., Carshalton, Surrey. Lond: Apl., 1879.

Death occurred 2nd March, at the age of 63,

LENOX-CONYNGHAM.—On the 15th March, at Chester, very suddenly, Hubert M. Lenox-Conyngham, F.R.C.V.S., Brevet Lt.-Colonel, D.S.O., Acting Director of Veterinary Service, Western Command, seventh and youngest son of the late Col. Sir W. F. Lenox-Conyngham, of Spring Hill, Co. Derry, aged 48.

INSURANCE COMPANIES' FEES.

To the Editor of The Veterinary Record.

Sir,—I quite agree with your contributor in your issue of 9th inst.—that the fees paid by Insurance Companies for examinations are too small and quite absurd, but I do not

think there is any remedy, for the reason mentioned in the last paragraph of his letter.

I should recommend him to accept an agency in a good company, when the fee plus commission is well worth having. This is what I did a few years ago, and I now almost monopolise the business of the district for this work and find it very lucrative. I have induced several of my neighbours to do the same, and they have found it to their advantage. I think fees in general are much too small, for when the cost of travelling is added to the cost of medicine there is nothing left. Unless I do a journey on my bicycle I do not think I get any remuneration whatever. Our charges here have been less than 1/- per mile for the journey and 2/- or 2/6 for drink or bottle of medicine. If I have two cases a day which I can see by using bicycle I get more profit than by seeing ten if I have to take the car. The farmers here can get their colts castrated for 5/- any distance away, so that you have to do them for that or let someone else do them.

I should very much like to see an article on veterinary fees as they are in other parts (as I don't know how the majority of veterinary surgeons live) and what should be charged for serum injections, attendance on milk-fever cases, testing with tuberculin, etc., in order to get an existence out of the "profession."

I had a client seven miles away who expected me to test a bull with tuberculin for 10/6. Supposing I went three times, the travelling expenses would be over 21/-, so I let him go elsewhere,—Yours, etc.,

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of writers, not necessarily for publication.

Communications for the Editors to be addressed 20 Fulham Road, London, S.W. 3

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

				Anth	rax	and-I	ot- Iouth ase.	outh Gland			Parasitic Mange. ‡		Swine Fever.	
Period.				Out- breaks	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh tered.
GT. BRITAIN. Week	ende	d March	16	3	6			2	4	114	229	12	24	19
Corresponding week in	{	1917 1916 1915		14 9 12	15 14 12			1	1	71 66	124 148	11 5 9	52 102 59	17 388 286
Total for 11 weeks,	1918	•••	•••	71	82			8	28	1686	3165	189	166	68
Corresponding period in	{	1917 1916 1915		153 142 184	181 168 204	1	24	7 16 7	12 47 11	898 900	1907 2251	305 141 123	463 893 805	154 2768 3329

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive a) Confirmed. (b) Reported by Local Authorities † Counties affected, animals attacked:—London 2, Forfar?

Board of Agriculture and Fisheries, March 19, 1918 Excluding outbreaks in army horses.

IRELAND. Wee	ek ende	d Mar	. 9	1	1	 		 Outbreaks 1	4	1	3
Corresponding Wee	k in {	1917 1916				 		 2	6 12	7 8	39 36
		1915	••-			 		 	10	8	14
Total for 10 weeks,	1918		•••	1	1	 F		 38	123	4	22
Corresponding peri	od in $\left\{\right.$	1917 1916 1915		2 1	2 5	 	1 	 9 18 10	137 154 141	42 44 47	277 141 262

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 11, 1918.

Note.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1551.

MARCH 30, 1918.

VOL. XXX.

THE NATIONAL V.M.A.

The report of the Annual General Meeting for 1917, with the agenda of its forthcoming Annual Meeting at Red Lion Square on Thursday next, are now in the hands of its members. Both show that "The National," despite the difficulty of the times, is continuing to work steadily and well in the

interests of the profession.

The report for 1917 reveals a fair financial position, which is all that can be expected just now. It also contains a long discussion of the remuneration and conditions of service of Veterinary Inspectors in Ireland; and doubtless the assistance of "The National," which was willingly given, had some share in obtaining such improvements in these as have since been gained. The agenda for the meeting next week foreshadows the inception of a movement of much wider importance, which "The National," from its constitution, is well fitted to set on foot.

Mr. Peter Wilson is to open a discussion upon "Professional Fees;" and his opening address is circulated with the agenda. Essentially it consists of a proposal for an organised attempt to improve the present fees; and Mr. Wilson, recognising the prove the first note of a much wider discussion than

is possible at any one meeting.

Members will agree that the increased cost of living and of conducting veterinary practices are only two among many reasons for an endeavour to improve veterinary fees; but no thinking man will deny that the task is likely to prove very difficult.

Mr. Wilson mentions three classes of fees-those obtained from insurance companies, from local authorities, and from general practice. The first of these may be improved, but are not likely ever to be wholly satisfactory to the profession. Insurance is a purely commercial transaction; and such reasons as the keen competition between rival companies, the difficulty or impossibility of raising veterinary fees without also raising premiums, and the fact that no insurance company is really obliged to employ veterinary surgeons at all, seem insuperable obstacles to any very great improvement in our fees. Recognising that, we may still hope to effect some improvement.

Fees from local authorities are a more hopeful matter. Here the general recognition of the altered conditions which render increased remuneration almost universally necessary will be a powerful aid to us, as it has proved to public servants in other pro-

veterinary claims upon local authorities are urged wisely, there should be no insuperable difficulty in

getting them fairly readjusted.

Fees from private practice are a very different question. This is the most important portion of the whole subject, because it affects the largest number of members; but its effective handling will be very difficult. Mr. Wilson makes two excellent suggestions: that "The National," after collecting the opinions of members through its branches, should attempt to devise a general scheme of charges acceptable to the whole profession, and that the Council of the R.C.V.S. should be asked to assist. But Mr. Wilson shows sound appreciation of the complexities of the problem when he adds that "the greatest difficulty might be found in formulating such a scheme." It is obvious that to fix a minimum fee below which no one would be allowed to charge, which has been suggested before, might not help matters much. Any such fee would have to be very low, or veterinary services would be rendered inaccessible to many owners; and this would still leave room for undercutting. Further, it must be remembered that a minimum fee, to be enforced, would need the approval of a substantial magnitude of the subject, has wisely treated it majority of the profession; and this is another briefly and in broad outline. His address should reason for obtaining the fullest possible consensus majority of the profession; and this is another of professional opinion.

Mr. Wilson advances two other suggestions, both good ones. One is to fix a definite fee for advice, apart from mileage, operations or medicine; the other is to charge increased fees when summoned after a certain hour. There are members who already adopt these measures, especially the first one, while others do not. This illustrates the lack of uniformity in the method of estimating fees which has always prevailed in the profession. Each practitioner fixes fees in his own fashion; and though there has been much desultory conversation on the subject, there never has been any serious and organised attempt to obtain the verdict of the profession upon what fees should be, or upon what

basis they should be assessed.

A little consideration of such points as the enormous diversity in veterinary work, the varying degree of its economic value to clients, and the difference in the customs and conditions of districts, will show how complex is this problem of fees. Any attempt to improve them will be fraught by many difficulties, to ignore which would be to court failure. The first step necessary is a careful collation of expressed opinion throughout the Kingdom. "The National," with its numerous branches, seems fessions. Another factor, of more permanent value the most suitable body to commence this, and Mr. to us, is the great increase of official appreciation of Wilson's address is calculated to induce this moveveterinary work that has marked recent years. If ment. Such an examination, which cannot be too formulation of any workable scheme.

THE MUKTESAR LABORATORIES.

We reprint this week the major part of the very interesting report of the Imperial Bacteriologist for the year ending March, 1917, rather more than half of which term the laboratories were in charge of the Assistant Bacteriologist, Mr. A. W. Shilston, and the latter portion under the recently appointed chief, Mr. A. Leslie Sheather. In some respects this may be considered the most important itstitution of its kind in the world, since it caters for a population of over 315 millions, over 78 per cent. of which is under British rule, and of which by far the most important occupation is agriculture—over 261,000,000 acres were cropped in 1914-15, mainly by peasant proprietors. Add to this that India has 220 vernacular languages "of extraordinary variety," and that three oriental religious creeds include 93 per cent. of the population, and a vague idea may be formed of the "passive resistance" that is offered to the practice of Western medicine amongst their animals. And it is in the steady success in this direction that the triumph of the work of the laboratory lies. Obviously the immediate result is obtained by the work of the men in the field, and most of the reports which we have reproduced in part from time to time contain a remark on the increased confidence of the ryots in their veterinary advisers.

It is in such conditions that one is able to feel that just pride in our profession which our 74 years of corporate life has not yet given us in this country -thanks to the ignorant and mischievous neglect of agriculture as a section of the utmost importance

in national life.

The work of the laboratory is shown by our abstract of the report, from which much detail is omitted. Much of its past success was due to the able work of the late chief, Maj. J. D. Holmes, c.i.e.; but this first instalment of the work of the new chief makes it evident that the outlook for the future is assured, the more so that he is so ably seconded by a capable and enthusiastic "Assistant."

ON REMOVAL OF THE EYEBALL— WITH UNION OF THE EYELIDS.

Apropos the recent communications on the subject, a description of the method adopted in Mesopotamia, the land of dust and flies, may prove of interest.

Both general and local anæsthesia are adopted. The eyelashes are clipped off and edges of the eyelids are firmly stitched together by a continuous suture. An incision is carried the whole length of the eyelids and right through to the mucous membrane, which is then separated from the remainder of the eyelid. This is repeated on the other lid, the incisions meeting and embracing both the outer and inner canthi. All the attachments are then divided, the membrana nictitans, the lachrymal sac and the sutured edges of the eyelids with the detached mucous membrane are removed in one piece.

Ligature of the optic nerve with its contained artery is not now practised, as in some instances the ligature appeared to act as a foreign body. If division is made

careful, is an essential preparatory step to the ligible and easily controlled by gauze packing. Before packing, the edges of the lids are brought together, turned outward and sutured deeply. Four stitches are sufficient but they should be slack enough to allow of the passage of at least half a lead pencil. Packing is done by inserting a long strip of gauze through the inner canthus; this is allowed to remain for 24 hours, then it is gently pulled out and the orbit is syringed out with a solution of Hydrogen peroxide.

Beyond the ordinary wound dressing, nothing more requires to be done. The post-operative swelling is sufficient to render the eyelids immobile till union takes place, providing the sutures do not cut out owing to being too tight in the first instance. These may be being too tight in the first instance. These may be removed in ten days, and recovery is usually complete in

about a fortnight.

ON LIGATURE OF THE EXTERNAL DIGITAL VEIN.

In an abstract in The Veterinary Record, in 1916, this operation was reported as being of great service in chronic laminitis. This has also been my experience, as many animals hardly able to move a fortnight after the onset of the disease have been returned to duty a month later. I now operate in three or four days from the beginning with good results.

It was but a step to adopt the same method of obtaining Bier's hyperæmia in cases of intractable wounds of pastern and coronet, and the results have been excellent; so far I have not had an opportunity of testing the treatment in suppurating feet other than quittor.

A few casses may be mentioned :

Wound just below the fetlock; defied all treatment for weeks; dried up almost at once and gave no more trouble.

Punctured wound in the postero-lateral side of the pastern extending downward and forward 12 in. inside the lateral cartilage. Patient too lame to walk. Discharge ceased in less than 24 hours, and animal returned

to duty a fortnight later.

Quittor had been under treatment for over three months, ligatured vein only. Inflammatory condition and discharge abated considerably after the first few days. Found slight discharge still continuing a fortnight later, so made a dependent orifice under the coronary band and curetted out some necrosed cartilage. Drainage was ensured by light packing with tow. Recovery complete (three months ago) and no recurrence.

The action of Bier's hyperaemia is said to be "Bactericidal, resorbent and anodyne," and certainly in all my experience I should never have looked for a successful issue to the slight operation performed in this case-merely drainage and "blind" curetting. Whether th Whether the bacillus of necrosis has been present in all my cases I cannot say, but a necrosis bacillus of some variety or strain had been at work on the lateral cartilage, and I assume his destruction had been effected by the increased leucocytosis. In this case the diseased condition appeared to have become localised as the result of the hyperæmia induced, but whether it is better to ligature the vein and operate simultaneously or with an interval between I cannot yet say. This may depend on the duration of the diseased condition prior to treatment.

Capt. T. W. Lloyd, A.V.C., Army Remount Depart-

ment, reports that he operated on four cases. One canker foot—no result; One quittor (?)—animal unable to walk but sound in a week, discharge ceased at once; Two wounds—results excellent. So successful has he So successful has he been that, like myself, he is now adopting the treatment

in all cases of a like nature.

The operation is simple and may be briefly described as follows:—The site chosen is on the side of the fetlock joint-either side according to requirement; the with a pair of blunt scissors the hæmorrhage is neg- hair is shaved off and a tourniquet applied on the meta-

Western State and

carpus or metatarsus as the case may be. The venous flow having been stopped the vein stands out promi-The incision is made right over it and the connected tissue is divided until a hook can be inserted under the vessel, taking care not to include the nerve (I always use a fine blunt button-hook) and ligature. The operative wound is very small and need not be sutured. Gauze and a bandage conclude the operation. Healing may take place by first intention, though sometimes the ligature sloughs out. No bad effects from the operation have ever been noted by the writer.

OPERATING TABLE.

It is hoped at an early date to publish photographs and a description of an operating table which had its origin in Mesopotamia. An improved pattern has been erected at Meerut, and so successful is it that it has been adopted by the Government for all Indian Station Veterinary Hospitals where required.

Its merits are: -Simple, efficient, and cheap-thus within the reach of every veterinary surgeons.

W. W. LANG, Capt. A.V.C.

ABSTRACTS FROM FOREIGN JOURNALS.

THE TOXICITY OF COTTON-SEED MEAL.

Poisoning by cotton-seed meal is common in North America; and for that reason W. A. Withers and A. Carruth carried out some investigations upon it in Carolina.

Their first experimental studies led them to the deduction that the toxic principle of cotton-seed meal is Pyro-phosphoric acid. A second series of experiments then led them to the hypothesis that the toxic principle is constituted by a protein compound containing Sulphur in an unstable combination, which exercises a toxic effect upon the blood. Finally, experiments made with gossypol, a substance isolated from cotton-seed meal by Marchiwsky, convinced them that this is the true toxin.

The authors conclude from their researches that the proper method for eliminating the toxicity of cotton seed meal should consist in the complete extraction of the gossypol or its transformation into an inert substance by oxidation or by precipitation.

SUBCUTANEOUS AND OPHTHALMIC MALLEIN TESTS.

Baumann, in the Archiv Veterinarnik Naouk for 1912, published an account of some extensive comparative observations upon these two tests. The report comprises the results of more than a thousand malleinisations practised by the author and by other veterinarians. One hundred and forty horses were found to be infected from the thousand tests. In some cases the subcutaneous and ophthalmic tests were carried out simultaneously, while in others they succeeded one another. The following are the author's chief conclusions ;-

1. All horses having clinical lesions of glanders give the typical reaction to mallein introduced

under the skin or into the eye.

2. In horses attacked by glanders, but without

leinisation by these two procedures are not always identical.

3. The majority of horses which give a typical ophthalmo-reaction also give, if subcutaneous malleinisation is practised one or two months later, a new reaction of the previously tested eye.

4. The ophthalmo-reaction is sometimes followed

by a general thermic reaction.

5. Subcutaneous malleinisation gives more constant results than does the ophthalmic test.-(Revista de Higiene y Sanidad Veterinaria).

ANNUAL REPORT OF THE IMPERIAL BACTERIOLOGIST, MUKTESAR LABORATORIES, FOR THE YEAR ENDING 31st March, 1917. (A. Leslie Sheather, B.Sc., M.R.C.V.S.). [Abridged.]

ADMINISTRATION.

Mr. A. W. Shilston, M.R.C.V.S., held charge of the current duties of the Imperial Bacteriologist up to the 10th October, 1916, in addition to his own as Assistant Bacteriologist. I relieved him, and held the post till

the end of the year under report.

Dr. G. H. K. Macalister, M.A., M.D., D.P.H., held the post of Pathologist up to the 12th November, 1916, after which his services were placed at the disposal of the Army Department for employment in the Central Laboratory at Basra.

The post of Physiological Chemist remained vacant throughout the year owing to the services of Dr. R. V. Norris, M.Sc., A.I.C., D.Sc., having been temporarily transferred to the Military Department in October, 1915.

Mr. S. E. Andrews held the post of engineer through-

out the year.

Mr. A. J. Hearsey was appointed Farm Manager on probation for one year with effect from 14th July, 1916. Mr. V. R. Phadke, a graduate from the Bombay Veterinary College, who underwent a course of training in

Bacteriology and Pathology in England, was appointed

to the new post of Veterinary Deputy Superintendent for the inoculation of eattle in the Military Dairies.

Fodder supply. During the past year the arrangements made for obtaining hay supply were very satisfactory. Three local contractors were engaged in place of one, and a much larger quantity of hay than usual

The yield of fodder from the Laboratory area was also in excess of that obtained in previous years, and efforts are being made to increase it.

The arrangements for grain supply were satisfactory, but on account of the difficulty experienced in obtaining transport we were compelled to increase slightly the rates for carriage from Haldwani to Muktesar.

Forests The Deputy Conservator of Forests, Naini Tal Division, has practically completed the working plan for the forest areas, and it is expected that in future nearly 30,000 maunds of fuel will be available annually from the forests instead of only 10,000 maunds

as prescribed under the old working plan.

Water supply. The question of water supply is becoming more and more difficult every year.

Owing to heavy falls of snow during February and March, 1917, the supply of water was maintained without much difficulty during the portion of the year ending in March: but in the beginning of the year under report, to overcome the scarcity of water arrangements had to be made to augment the supply by the erection of three "Collecting Diggis" in the vicinity of springs. Considerable manual labour is required for the utilization of this water. To economise, a small portable pump clinical lesions, or convalescent, the results of mal- has been ordered and will be used shortly to raise the water from the diggis to the well, from which it will be raised to the distribution tanks by means of our electric-

ally driven pump.

The Public Works Department recently notified that proposed electrical pumping scheme referred to in the last year's report is being delayed on account of the difficulty experienced in getting pumps and pipe lines in this country.

Electric centrifuges. The three new centrifuges referred to in last year's report have been erected and are giving satisfaction. The question of obtaining six more centrifuges of the same pattern in the place of nine as originally proposed, has been approved by Government.

The three old centrifuges which remained in workable condition at the close of last year have since all become

unsafe to run.

Barelly Branch Laboratory. The Imperial Bacteriologist was unable to go to Bareilly in consequence of his arrival in Muktesar only in October, 1916. The Branch Laboratory was, however, kept open throughout the winter for the maintenance of a supply of rinderpest virus for the inoculations at Government Military Dairies.

Mr. Shilston visited Bareilly early in April Tours. and October, 1916, to see the Agricultural Adviser to the Government of India regarding the construction of the new Branch Laboratory at Izatnagar and to consult

with him on some other important subject

Mr. Shilston visited Mona Remount Depot on the 23rd October, 1916, at the request of the Director General of Remounts, to investigate a peculiar disease amongst horses. On the return journey he saw the Chief Supt. C.V.D. at Amritzar regarding dourine, and halted one day at Bareilly to see the experiments there, returning to Muktesar on the 29th October. He again proceeded to Bareilly on the 4th November, 1916, to initiate inoculations against rinderpest by the simultaneous method in the military dairy farms, and visited Sitapur Military Dairy Farm. Between the 9th and 15th November he toured in company with the Chief Supt. C.V.D., Punjab, to demonstrate the method of collecting material for the diagnosis of dourine.

After this Mr Shilston visited the Military Dairies at Sitapur and Cawnpore for the purpose of inoculating cattle, and at the end of November he saw the Agricultural Adviser to the Government of India at Delhi.

During the 1st and 2nd weeks of December Mr. Shilston visited Allahabad and Agra Dairy Farms to inoculate dairy cattle there, returning to Muktesar on the 12th December. On the 5th January he again went down to Bareilly and from there visited Karnal to inoculate dairy cattle. From the 19th January onward he toured in the Madras Presidency with the Supt. C.V.D., Madras, at the request of the Madras Government, to enquire into the question of suppression of rinderpest in that province. Between the 3rd and 7th February he inoculated cattle at the Military Dairy, Bangalore, and subsequently visited Belgaum and

Dr. Macalister carried out investigations in connection with Kumri in Assam, and toured there with the Supt.

C.V.D.

PREPARATION OF SERUMS AND VACCINES.

Rinderpest serum. During the year 1916-17, 1,243,670 doses of anti-rinderpest serum were prepared and 1,409,220 doses were issued as against 1,186,550 doses prepared and 964,460 doses issued during the year 1915-16. The increase in the demand was due to the prevalence of this disease in nearly all provinces.

The total amount of the bills for sale of anti-rinderpest serum issued during the year under report comes to Rs. 1,60,021 as against Rs. 1,09,566, realised during the previous year. [This amount includes Rs. 17,186 realised

still awaiting payment and have to be carried over to next year's account.]

If the cost of 154,750 doses supplied free to the Military Department were added, the total revenue from

this source would amount to Rs. 1,79,364.

A table compiled from the returns received from 14 Provinces and States shows the results of anti-rinderpest serum injections carried out in the field during the year 1916-17. The following are the totals given. The table contains detail of distribution to the Provinces.

Outbreaks in which inocula	tion was	undertaken	3,645
Died uninoculated during d	lisease	Bovines	57,878
		Others	87
Inoculated	•••	Bovines	522,273
		Others	810
Died after inoculation		Bovines	2,611
		Others	10
Percentage of deaths in ino	culated b	ovines	0.49

The figures given in the table of the animals inoculated with serum include animals which were infected at the time of inoculation and which serum cannot be expected to save; those which became infected after protective action of the serum had passed off; as well as the more susceptible animals which the serum failed to protect. As the mortality was only 0.49 per cent. of the whole number, we are justified in concluding that this

serum is of the utmost practical value.

The Supt. C.V.D., Assam, in referring to the number of deaths after inoculation in Assam in the return for the quarter ending 30th Sept., 1916, which amounted to 116 out of 4,931 animals inoculated, states that:—

"102 deaths occurred on one tea garden. An Inspector visited the garden 20 days after inoculation and found that 405 animals had been inoculated, that 201 of these were attacked and 85 died. Of these 85, about 43 contracted the disease within 9 days of inoculation. The animals were inoculated on the 8th to 10th July, 1916. Many of the coolies objected to inoculation and a large number (675) were not inoculated. Rinderpest persisted in the garden, and on the 8th to 12th August, 483 animals were inoculated or reinoculated, out of which 131 were attacked and 17 died. The dose of serum was 25 c.c. (a few large animals got 30 c.c.). A certain number (43) of cattle died, as they were evidently inoculated in the incubative stage of the disease. The dis-was of a very virulent type and I think the dose was not quite sufficient. The disease subsided after the second inoculation. The explanation of the figures in column 6 of the chart, viz., number not inoculated, is that the animals were either suffering from the disease or hidden in the jungle by the coolies.

Similarly the Supt. C.V.D., Bengal, states that:-

"Due to rains these villages were almost under water for the season. The animals were constantly shut in their respective sheds for the time being. The heavy mortality took place in three herds of over 50 cattle in each, kept thickly in small sheds, and left open to inclement weather in absence of proper nursing and feeding. It is not improbable, therefore, that they gradually lost condition and most of them died of starvation. Percentage of deaths was high at Hariharpur village, where the owner kept his herd far away from his home having no sensible men to look after

As regards the efficacy of this serum, the Supt. C.V.D., United Provinces, in his Annual Report, paragraph 22, page 3, for the year ending 31st March, 1916, states:

"During the year under report there has been consider-"During the year under report there has been considerable abatement in the ravages of this disease and very few districts were seriously affected. Wherever it appeared, inoculation campaigns were originated with the gratifying result that only 3767 deaths have been recorded against 19,839 of last year, those districts which suffered most previous year. [This amount includes Rs. 17,186 realised severely being Banda, Benares, Gorakhpur, Basti, and for the year 1915-16. Bills amounting to Rs. 16,228 are Mirzapur."

The number of doses manufactured during the year was 1,243,670, 57,120 more than preceding year: and the number issued was 1,409,220—27,170 doses in excess of

any previous issue.

Anthrax serum. 11,029* doses of this serum were prepared (decrease 60,841), and 29,069 issued (decrease 19,268 on the previous year). The manufacture of this 19,268 on the previous year). serum was regulated according to the demand: a balance of 23,533 doses of the last year's manufacture was included.

Hæmorrhagic septicæmia serum and vaccine. 122,915 doses of hæmorrhagic septicæmia serum were manufactured and 157,065 doses issued during the year under report, as against 127,365 doses prepared and 79,965 issued in the year 1915-16.

The number of doses of hæmorrhagic septicæmia vaccine prepared and issued during the year 1916-17 was 146,540 as against 124,150 prepared and issued in the

preceding year.

The demand for both serum and vaccine is increasing and steps are now being taken to augment the supply of

these products.

As regards the efficacy of the serum, the Supt. C.V.D.. Bombay Presidency, in his Annual Report for the year 1915-16, states:

"Serum inoculation in 14 outbreaks of hæmorrhagic septicemia was adopted with very satisfactory results, only one death occurring in an inoculated animal, while 141 uninoculated died of this disease. The supply of this serum was limited or more inoculations would have been carried

The Supt. C.V.D., United Provinces, in the Annual Report for 1915-16, states:

"Two hundred and fifty-four cattle were immunised by the vaccine method and 3844 were inoculated, and both with generally satisfactory results."

Hæmorrhagic septicæmia serum is used to check actua outbreaks of the disease.

The number of doses manufactured during the year was 122,915-4450 decrease on previous year; and the number issued was 157,065-77,100 doses in excess of

any previous issue.

The results obtained from inoculations with hæmorrhagic septicæmia vaccine are detailed in a table which gives the totals as :- Number of outbreaks in which inoculation was undertaken, 265; number of animals which died uninoculated in course of disease, 170; num-

ber inoculated, bovines, 56,990; died after inoculation, 15; percentage of deaths in inoculated bovines, 0.02.

Hæmorrhagic septiæmia vaccine is used in areas where the disease is endemic at the beginning of the seasons

when it is most prevalent.

The number of doses manufactured during the year was 146,540-22,390 more than preceding year; and the number issued was 146,540-22,390 in excess of the previous year's issue.

Black Quarter vaccine. 23,350 doses were issued from the outstanding balance of last year, as against 20,257

doses during the preceding year.

The Supt. C.V.D., United Provinces, in his Annual Report for 1915-16, states :-

"There has been a satisfactory decline in the prevalence of this disease. It appeared in 15 district and 262 deaths only have been reported. In those cases where the disease appears to recur periodically, vaccination was resorted to as a preventive measure and 183 animals were treated by this method. Protective vaccination is probably responsible to some extent for the steady decrease in the death rate.'

The Chief Supt. C.V.D., Punjab, in his Annual Report for 1915-16, states :-

"One thousand four hundred and fifteen deaths were reported during the year against 2007 during the previous year. Again, the deaths during the year were considerably less, which fact the Supt., South Punjab, partly attributes to a healthier year, and partly to a larger number of vaccinations. 2715 vaccinations were performed against 981 last year. The larger number of vaccinations is creditable, and shows that the people appreciate the help of the department. This statement also applies to Hæmorrhagic septicæmia vaccinations and Rinderpest inoculations.

Strangles serum and vaccine. 4195 doses of this serum were prepared and 9063 issued, as against 11,242 doses manufactured and 17,132 issued in 1915-16.

Besides this, 260 doses of antistreptococcic and 500 doses of mixed antistreptococcic and staphylococcic

vaccines were prepared and issued.

The demand for the above serum and vaccines was mainly from the Army Remount Depots for the treat-ment and experimental immunisation of horses against

strangles.

Mallein. The demand for mallein was maintained fully throughout the year. 35,972 doses were issued as

against 30,332 doses in the preceding year.

The number of doses manufactured during the year was 30,000—1991 more than preceding year; and the number issued was 35,972—4868 in excess of any previous issue.

Tuberculin. Eighty-two doses were prepared during the year under report. The whole number of doses issued was 377 as against 430 in 1915-16.

A new brew consisting of a large number of doses is

now ready for issue.

Miscellaneous vaccines. As in the previous year material from various infective conditions, chiefly from horses, was received at this Laboratory for the preparation of autogenous vaccines.

In all 690 doses of special vaccine and 50 of pleurisy

vaccine were prepared and issued.

Specimens examined. During the year under report 230 specimens were received for examination and report at this Laboratory as against 125 specimens during the preceding year.

Serum test for the diagnosis of Dourine. The study of the complement fixation test and its application to the diagnosis of dourine in India, was taken up by Mr. Shilston early in the year. The discovery that this disease was widely established in the Punjab and Baluchistan, and is threatening seriously to interfere with horse-breeding operations, made the working of a reliable diagnostic method a matter of great importance.

The progress of this investigation was much interfered with by pressure of routine work and the necessity of making various tours, but a considerable number of tests were carried out before the close of the year.

Reports were furnished on 131 specimens of serum, received from the Civil and Army Remount Veterinary Officers as follows:-

Positive 10; Negative 64; Doubtful 10.

Forty-seven samples were received in such condition as to be unsuitable for testing.

Training. Mr. G. H. Frost, Supt. Military Dairy Farms, underwent a course of training at Muktesar from 29th July to 13th Oct., 1916, in the study of contagious

diseases among animals. At the request of the Director of Agriculture and Industries, Punjab, Mr. Barkatali, Bacteriological Assistant to the Agricultural Chemist of that Province, visited the Laboratory to make himself acquainted with the modern researches carried out at the institution. He

stayed here for a week only in October, 1916.

Military Dairy inoculations. Mr. V. R. Phadke, Vety. Deputy Supt., visited Jubbulpore in August to investigate the cause of deaths amongst the cattle at the Military Dairy Farm there, and inoculated 1800 animals

^{*} These quantities vary on account of balance in hand, and of varying requirements.

collected at Lucknow and Cawnpore for transport duty in Mesopotamia.

In October Mr. Phadke was deputed to Bareilly to continue and supervise experiments initiated by the

Assistant Bacteriologist.

During November, 1916, the Assistant Bacteriologist and Mr. Phadke carried on inoculations by the simultaneous method in the Government Military Dairies at

Sitapur and Cawnpore.

During December and January the animals at Allahabad, Agra, and Karnal dairies, were inoculated, and frequent visits were paid by the Deputy Supt. to all these five dairies to supervise the reactions of inoculated

In February, 1917, the Assistant Bacteriologist initiated inoculations in the dairy cattle in South India, and Mr. Phadke carried them on in the dairies at Bangalore,

Wellington, and Belgaum.

During winter, 446 animals were treated by the serum simultaneous method at the Military Dairy Farms in India. The majority of these animals treated by this method showed moderate reactions, and it is anticipated that an active and lasting immunity against rinderpest

has been established.

There were no mortalities amongst these animals from rinderpest as a result of serum simultaneous inoculation, but some eight animals (seven half-bred and one country bred) while reacting to the simultaneous inoculation developed piroplasmosis, diagnosis being confirmed by the detection of piroplasmata in blood by microscopic examination. Of these, six were successfully treated by the simultaneous administration of Trypan blue, but in the case of two half-breds death was so sudden that treatment could not be carried out.

Besides these inoculations, natural outbreaks of rinderpest at Belgaum and Mhow were attended to and suppressed by inoculating the animals on the farm (some

1300) with serum alone.

At Bangalore a natural outbreak occurred amongst untreated milking stock; this was suppressed by means of serum inoculations. None of the animals previously treated by the simultaneous method became infected during this outbreak.

RESEARCH WORK.

Several factors have combined to limit the amount of research work that could be carried out during the past year. The routine work of the Laboratory and difficulties of administration were greatly increased. The departure of Dr. Macalister, shortly after my arrival, again reduced the number of officers on the staff to two. During the first half of the year Mr. Shilston's time was very fully occupied with duties of administration and the maintenance of the increasing output of sera and vaccines. Later he was touring in the Madras Presidency, supervising inoculations at the Military Dairies and initiating tests for the diagnosis of dourine, outbreaks of which disease have assumed serious proportions in the Punjab and Baluchistan.

In these circumstances the amount of time that I was able to devote to research work was very small.

Rinderpest. A large number of observations have been made regarding the vitality of the virus of rinder-pest under various artificial conditions. A report of the results obtained will be submitted for publication shortly.

The method of obtaining serum by the oxalate process is being practised on a larger scale in order to cope with the enormous increase in the demands, and will shortly be applied to the whole of the serum production

in Muktesar.

In the course of the inoculations carried out at the Military Dairies several valuable observations were made regarding methods of immunisation.

Kumri. A report on Kumri was submitted for publication by Dr. Macalister before he left Muktesar for military duty. It embodies an account of the disease and his work regarding the nature of the pathological changes produced. Further research on the disease has had to be postponed for the present.

· Contagious abortion in cattle has been reported from some of the military dairies. Efforts are being made to

isolate the causal organism of this disease.

Pleuro-pneumonia in goats. During the last month or two of the year under report some experiments were carried out in connection with this disease. Failure to obtain susceptible animals for experimental purposes interrupted the work, but the subject will be taken up again when suitable animals become available.

Surra. Some experiments in connection with the treatment of surra have been carried out but so far

without success.

Modification of the culture medium Tuberculosis. used for the preparation of tuberculin has accelerated its production very considerably, and a large stock is now available. The study of strains of the tubercle bacillus isolated from cattle in this country is being continued.

Dourine. The diagnosis of the disease in its early stages presents great difficulties. The complement fixation test has been successfully applied in America, for the detection of infected animals and the study of its applicability to the disease in this country has been taken up by Mr. Shilston. A large number of tests have been carried out with promising results, and it is hoped that the officers of the C.V.D. and the Army Remount Dept. may be assisted in stamping out the disease.

Miscellaneous. The occurrence of a chronic form of enteritis has been reported from one of the military Examination of specimens from two cases appears to indicate that the condition is that known in Europe under the name Johne's Disease. Two animals suspected of being infected are under observation.

Publications. During the year the following papers

were submitted for publication :-

(a) "Vitality of the rinderpest virus outside the animal body under natural conditions," by A. W. Shilston, M.R.C.V.S., Assistant Bacteriologist. Memoirs of the Department of Agriculture in India, Veterinary Series, Vol. III, No. 1.

(b) "Rinderpest—Preparation of Anti-serum," by A. W.

Shilston, M.R.C.V.S., Assistant Bacteriologist. Pusa Agri. Res. Inst. Bull., No. 64.

(c) "Kumri—Combined diffuse Sclerosis and Central Poliomyelitis of Horses," by G. H. K. Macalister, M.A., M.D., D.P.H., Pathologist. Memoirs of the Department of Agriculture in India, Veterinary Series, Vol. II, No. 8.

General Remarks. The maintenance of the increased output of sera and vaccines during the last year, diffi-culties experienced in obtaining material on account of war, and paucity of water supply and labour imposed a heavy strain on the members of the staff.

I am greatly indebted to Mr. Shilston for the assistance that he has rendered me at all times and for the placing of his experience and knowledge of local conditions freely at my disposal.

The prompt and energetic measures taken by Mr. Andrews on the occasions when the water pump broke down prevented a very serious interruption of the work of the laboratory. His services in connection with the whole of the plant under his charge are fully appreciated.

The three European laboratory assistants have carried out their responsible duties with care and thoroughness and their zeal and energy is to be commended.

Mr. Goffi acted as farm manager till July 14th, when he was relieved by Mr. A. J. Hearsey. The improvements effected by Mr. Goffi in the work of the farm staff and the condition of the estate have been maintained, and every effort is being made to render the

estate still more productive.

The services of Rai Sahib Pandit Krishna Nand, Office Superintendent, have been of the utmost value to me in dealing with many administrative and other difficulties that have arisen during the year. His long experience and knowledge of local conditions have been placed freely at my disposal.

The great increase in the office work and changes rendered necessary by the retirement of the accountant, Rai Sahib Pandit Nityi Nand, have entailed a considerable strain on the office staff. The manner in which the work has been carried on deserves special commendation.

PRACTICAL VETERINARY PHARMACOLOGY AND THERAPEUTICS. By Howard J. Milks, D.v.M., Professor of Therapeutics and Small Animal Clinic, New York State Veterinary College at Cornell University, Ithaca, N.Y. Pp. 518, including index. Price 22/ net. (New York: The Macmillan Company. 1917.)

This is a new American work, and, in the United States at least, is likely to gain a considerable circulation. Its subject-matter is well indicated by its title; and only a comparatively short review of it is necessary for English

The first seven chapters, which comprise 71 pages, are ntroductory, and taken up with such matters as definiions, the sources and composition of drugs, the gross anatomy and chemistry of plants, pharmacy pharmaceutic methods, dispensing, prescription writing, and general pharmacological considerations. This part of the work is well done; though there are portions, such as the short chapter upon dispensing with its careful directions for and illustrations of the folding of powders and wrapping of boxes and bottles, which hardly appear necessary. The next twenty-one chapters, amount to 410 pages, are devoted to drugs and therapeutic measures, arranged in a somewhat peculiar, but not uncommendable manner. The drugs are first grouped in accordance with their therapeutic action and discussed in a general way, and a more detailed description of the individual drugs follows. This makes up the great bulk of the work, only two other chapters remain. One, a very short one, deals with diagnostic agents; the other, amounts to some fifteen pages, briefly summarises the subjects of bacterins, serums, vaccines, and anti-toxins.

A very large number of drugs are dealt with or men-

tioned, including many which are little, if at all, used in veterinary practice. This has rendered it impossible veterinary practice. for the author to treat the more important veterinary drugs quite so fully as many readers will think desirable; and, though he makes excellent use of the space he has allowed himself, there are not a few important subjects which appear to have received a hardly sufficiently detailed consideration. As is not uncommon in a work covering so large a field, there are portions in which the teaching does not give the most recent knowledge. It is stated, for instance, that veterinary work upon spinal analgesia has been confined to the dog; and, in the very short account given of mallein, the only methods of using it mentioned are the subcutaneous and ophthalmic. Generally speaking, however, the teaching is good, modern, and well conveyed; and the fact to be regretted is that so many subjects are necessarily treated with such comparative brevity. The book contains a great number of prescriptions, many of them very useful; but naturally they are all based upon U.S.P. formulæ.

Undoubtedly the work will be very useful to both students and practitioners in the United States. Its adherence to the U.S.P. formulæ is a distinct drawback

ness of possible new additions to the drugs current in veterinary practice, will render it interesting reading to some practitioners who have a taste for developments in the apeutics. We hope to see its next edition considerably enlarged, which will greatly enhance it value.

RESEARCH IN ANIMAL DISEASES.

The following extract is from a report in Scottish Farming News of the address given by Sir Stewart Stockman at the Highland and Agricultural Society It may be useful in other directions. Conference.

"I understand that what is expected of me is not so much a paper in the form of an essay as an attempt to sketch out in a manner which will open the way for constructive discussion problems in relation to disease of stock which ought to be the subject of research, and also an adequate organisation for tackling these problems, bearing in mind that the primary object is to encourage the development of agriculture by relieving stockowners and breeders as far as possible of handicaps

pressing on their business.

We are all aware of the great importance of abstract research, which aims at acquiring new knowledge for knowledge sake, leaving it to be discovered in the future if that knowledge is of practical application in the multifarious businesses of men's lives. I take it, however, that what we have met to discuss specially, is that kind of research which has for its object the application of science to the investigation and solution of the immediate problems of the day. Given an established but elastic organisation it will also be in a position to deal with the problems of the morrow as they arise. does not mean that we should wait for the problems to thrust themselves upon us; the organisation should include provision for seeking them out.

The reference to this meeting is worded "Problems for Veterinary Research." Defined problems for research, however, arise mainly after research has been started, and it would involve endless detail were we to attempt anything approaching intimate inition of the problems. The reference does not, I think, intend specific problems, but rather subjects for research. Taking that view the matter is greatly simplified, because although we have a great amount of important knowledge in relation to many diseases there are few about which our information is complete in the sense that the last word can be said as to the method of deal-

in with them.

For the purpose of dealing with a disease it is not always necessary to have complete information regarding all its important points. For example, rabies, and pleuropneumonia, were dealt with before the specific and causal microbes had been identified, but the latter at a great price. Full information, if handled by trained men who know what they are doing, simplifies the task and renders errors less likely; it also aids the avoidance of irksome restrictions on movement of stock

At the outset the aim should be to acquire by investigation the fullest knowledge possible of the cause, the manner in which the cause acts—which in relation to contagious diseases includes knowledge of the virulent material—the natural way it enters the system, the way it is set free from the system, the way it is disseminated, diagnosis, prevention and preventive methods (that is especially vaccination methods, which have been too long neglected in this country), and curative methods.

If the question is put, "What diseases of stock cause

most loss and most continuous loss to agriculture? think the answer would be, tuberculosis, abortion, to its utility to those in England; but the wide range of its subject-matter, and its resultant frequent suggestivenematodes. There are also other important diseases

which cause considerable and continuous loss, such as Johne's disease, braxy, louping-ill, scrapie, joint-ill, and fodder poisoning—especially poisoning by fodder, which is otherwise useful. We have also diseases of poultry. It would be entirely wrong to imply that in regard to

many of these diseases or conditions we have not already acquired a great amount of important informa-tion, but it cannot be said of any of them that our knowledge is sufficiently complete for the requirements of profitable agriculture, and as regards some of them, there is very little which can be described as fully ascertained knowledge. Considerable as the list mentioned is, I do not think it would be a too ambitious programme to set, say, to a generation of trained workers under an organised scheme of research, but of course, in making a start a selection as to priority has to be adopted.

Practically all these subjects require for their basic work mainly, the services of properly trained veterinary pathologists, using the term in its broadest sense. The services of trained chemists and entomologists would also have to be drawn upon in certain cases, and I propose later to suggest ways of bringing about such co-operation, but the point I wish to impress at the moment is that in relation to studying diseases of stock for the benefit of agriculture, veterinary pathology is the basic and chief thing, and it must not be merely an appendage to something else. It is important enough, and its object is important enough to require this, if material progress is to be made along these lines.

I would like to digress for a moment to say something further in relation to cures and preventives in veterinary practice, because the problem is unusally complicated, and the complications must be faced. If it were sufficient merely to obtain an effective remedy or preventive, it would be simpler. We must, however, divest our minds, I think, of everything bordering on what might be referred to as snobbery in science, and realise at once that we have to deal with questions in which commercial considerations must be given a very important and even a first place. To illustrate my meaning by a simple example, I would point out that a remedy or preventive, be it ever so effective, is not of much practical value in dealing with, let us say, the individual pig or sheep, if if its cost is something like 10s. per dose. Our problem, then, is not merely to cure or prevent disease, but to cure or prevent it on a commercial basis.

Coming to the subject of ways and means, one of the very first points which arises is the question of funds. I do not hold the view that in matters of this kind the public purse should thear the whole cost. It would, I think, be a great misfortune if no effort were made to induce gifts from private individuals for purposes of research. I would further point out that the important problems which remain for solution require laborious and continous research to be carried out for a number of years; the work must be continuous. It seems reasonable to expect that in relation to the question of funds for agricultural research the State will provide adequate contribution, and I suggest that the existing system on a more extended scale has much to recommend it. Funds for agricultural research are put at the disposal of agricultural departments. The money is expended in block grants to a certain number of existing institutions specially adapted to carry on work of a basic character. We arrive thus at institutes for animal character. We arrive thus at institutes for animal pathology, institutes for plant pathology, animal nutrition, etc., all of which carry out a definite and continuous programme of work. The utilisation of the grant is surrounded by the least "red tape" possible; the payment of necessary assistance, the purchase of extraordinary apparatus, the cost of re-agents, the general outlays on experiments, travelling expenses of workers on duty, are all considered to be legitimate expenditure. After meeting the block grants a balance is made avail-

scientists and other authorities on agriculture for the purpose of grants to individual researchers working outside the institute. That is to say, if a competent worker or combination of workers conceive a research likely to be useful to agriculture, and not already provided for, and if the workers are in a position to carry it out, the Committee can at their discretion make grants in aid of that research. Provision also exists for the granting of money in aid of building, or extending institutions when it appears necessary in the national interest. With regard to building, it seems a necessary provision, but a great deal of money useful for other purposes in research can be wasted on unnecessary buildings. It is sometimes forgotten that each of the famous prototypes on which the call is largely founded grew up around a quite exceptional genius, and great pupils whom that genius developed. Building huge and extensive establishments, and then suddenly looking about for men to start them in accordance with their great pretensions has not been a success. The soundest principle seems to me to be the higher development of what we already possess. More-over, by waiting to find from experience what kind of new institute is required, if any, we have a much better chance of getting the right thing.

For the investigation of diseases of stock, much more than a nucleus already exists in the veterinary colleges, and certain laboratories devoted to and staffed for the purpose. I think the wisest procedure would be in the first place to make full use of these existing institutions and staffs, and to extend their usefulness.

In any scheme which necessarily involves more than one institution, provision has to be made for the coordination of results and the prevention of unnecessary duplication. The first can best be met by arranged conferences between the principals, the second by the same thing together with a certain amount of central control.

With regard to provision for the kind of work which for its full accomplishment requires the services of workers in other important branches of science, I do not favour the conception of a central finstitute to deal with The greater number of its departments run everything. the risk of becoming mediocre and merely an appendage of another which dominates the situation for the time being, unless each section is separate under its own director, which brings us back to separate institutes. If you wish, say, the best chemical help, you naturally go to an institute devoted to chemistry, and unfold your problems for consideration. The point of this is that the best form of co-operation, when required, is a cooperation of separate institutes, each a power of in-dependent growth in relation to its own basic subject.

The institutes and schools at home and abroad will train men, but some inducement must be offered to the best graduates to train as researchers, for it means longer and more arduous study, and a longer period of non-remunerative work than most men are prepared to face. To some extent this can be met by post-graduate scholarships. Provision for such scholarships already exists and should be continued.

The co-operation of stock-owners is highly desirable for several reasons. There is the assistance they can give in bringing their difficulties to the notice of research staffs, the assistance they can give in providing material for the necessary investigation, the assistance they can give in trying methods for cure and prevention, and last but not least, the assistance they can give in the dis-semination of information concerning what has been achieved. All stock-owners should co-operate, but I take it their views and requirements would have to be communicated through a committee in close communication with the research institutes; possibly a joint committee of stock-owners and researchers would meet the case.

I would say a further word about the dissemination able to be at the disposal of a Committee composed of of recently acquired knowledge which is ripe for utilisa-

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tion in practice. Farmers as a rule are badly situated in this respect owing to being more or less isolated, for it is around the centres of learning and research that people have the best chance of catching new ideas as they arrive. A great deal can be done by leaflets and bulletins, and journals devoted to problems in agriculture, but I think this must be supplemented by practical and illustrative lectures—not lectures in general which consist of a few remarks on a dozen of subjects, but lectures on specific subjects of importance. I also venture to suggest that dissemination of knowledge would be greatly facilitated by the formation of local societies for the discussion not so much of agricultural politics as of newly acquired knowledge and subjects about which further information is required."

GLASGOW VETERINARY COLLEGE.

A meeting of the Governors of the Glasgow Veterinary College (Incorporated) was held within the Secretary's Chambers, 105 St. Vincent Street, Glasgow, on 20th inst, Mr. J. Campbell Murray, Vice-Chairman, presided. It was intimated that the following appointments to the Board of Governors had been made since last meeting, namely:—(1) By Glasgow University Court, Professor Robert Muir; (2) by the Royal Faculty of Physicians and Surgeons in Glasgow, Professor John Glaister; (3) by the County Council of Dumbarton, Mr. Allan Burns of Cumbernauld. It was reported that the equipment of the new bacteriological laboratory was being proceeded with as quickly as possible, so that Professor Caigor might commence his investigation into sheep diseases with the least possible delay. The committee appointed to organise an appeal to landowners, flockmasters, and all others interested for assistance financially and otherwise in connection with the investigation had prepared a letter to be issued to all parties interested. The Secretary was communicating with town and country councils throughout Scotland in order to obtain their influence and co-operation in connection with the appeal, and a number of replies promising assistance had already been received. The remit to the committee to organise the appeal was continued.

THE OFFICIAL POET.

"Where are you going, my pretty maid?"
"I'm going a-milking, Sir," she said.
Dear maiden, I'd like to disclose the fact,
That I'm an inspector under the Act.
So pray remain, for I want to know
A thing or two before you go.
Nay, pretty maiden, you must not weep;
How far away are the pigs you keep?
And what percentage of butter fat
Does your moo-cow yield? Pray tell me that.
And how is the health of your pretty pet?
Has it anthrax, cancer, blackleg, garget?
Has your sister measles or whooping-cough?
Is the water clean in the drinking trough?
I pray you answer these questions of fact;
For I'm an inspector under the Act.
With the fierce bacilli also I cope,
By means of my powerful microscope.
Excuse me, I must examine your hand;
Purely official, you'll understand.

From Farm and Home.

ARMY VETERINARY SERVICE.

War Office, March 22.

With reference to the awards conferred as announced in the London Gazette dated Nov. 19, 1917, the following are the statements of services for which the decorations were conferred:—

THE MILITARY CROSS.

T./Capt. J. E. Hanna, A.V.C.—The wagon lines were bombed by enemy aeroplanes and heavy casualties were caused among the animals. As soon as the first bomb fell, he went out and began to attend to the animals. By patience, coolness, and skill he saved many animals who would otherwise have died. He worked unceasingly through the night, setting a magnificent example to all.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Mar. 23.

REGULAR FORCES. ARMY VETERINARY CORPS.

Cols., having attained the age limit, are placed on ret.
pay:—E. Taylor, c.b., C. Rutherford, c.b., c.m.c.,
(May 24.)

Temp Capt. G. R. James relinquishes his commn. on acct. of ill-health contracted on active service, and is

granted the hon. rank of Capt. (Mar. 27).
Temp. Lt. to be temp. Capt. :—J. Brosman (Feb. 15).
To be temp. Capt. :—M. G. O'Gogarty, late Capt. Can.
A.v.c. (Mar. 11).

Temp. Lt. to be temp. Capt.:—H. H. Brodie (Mar. 12).
To be temp. Lieuts:—H. F. Vulliamy (Mar. 7); J. H.
McManus (Mar. 8); H. M. Roemmele (Mar. 12).

Canadian A.V.C.

March 23.

Temp. Capt. M. G. O'Gogarty resigns his commn. on transfer to Imp. Forces (Mar. 10).

Census of Cows.

Mr. Clynes states, in reply to Capt. H. F. Wright, that it is not possible to give exact figures of milk production, but a census of December 2, 1917, shows that in England, Wales, and Scotland there were 1,793,265 cows and heifers in milk, 1,238,978 in calf, and 418,287 other breeding and store cattle of two years and over. At the same date the producers estimated that they would sell (not produce) during the three following months 125,801,646 Imperial gallons of milk. On March 1, 1918, the product of not more than 57,364 cows was being used for the manufacture of condensed milk. The amount of milk converted into dried milk during the six months ended December 31 last was not less than 4,713,118 gallons; during the six months ended January 30, 1917, it was not less than 2,648,961 gallons. No milk is now being used in the manufacture of chocolate.

Early drawn Milk.

A successful defence was raised in a case at Wigton (Cumberland), in which John Nixon, farmer and milk-seller, was charged with selling a pint of new milk which was below standard quality. When analysed by the county analyst, the sample was found to contain only 1.56 per cent. of milk fat; but when an "appeal to the cow" was made three days later 5.10 per cent. of milk fat was disclosed—2.10 per cent. above the limit, and one

The state of

of the richest samples the authorities had come across in connection with these cases.

The defence was that the first sample, which was supplied to the police, who were waiting at the farm, was taken from the first milk given that morning by two cows, and it was argued that first milk was always poorer, an authority being quoted to the effect that it was quite possible for the first pint of milk drawn from a cow at a milking to contain as little as 1 per cent. of fat, whereas the last pint might show as much as 7 per cent. Evidence was given that the milk was not tampered with, and the Bench dismissed the case.—The North British Agriculturist.

Personal.

The election of Mr. H. W. Robson, M.R.C.V.S., to the position of a member of the Town Council in room of Mr. David Nicol, retired, will, we are certain, give general and entire satisfaction. Since his coming to Laurencekirk Mr. Robson has displayed many good qualities. His position of veterinary surgeon has brought him into contact with a wide circle embracing various classes of the community, and it is no exaggeration to say that with all he is popular and esteemed. A man of quiet and steady courtesy, devoted to duty and sterling in all his dealings, he has earned the regard of his fellow townsmen to an extent greater than is superficially apparent. We feel confident that Mr. Robson will carry to the Council Board those admirable qualities the trade between the Argentine and Europe.

which he has shown in his professional capacity, and that, as a result, the Council will be considerably strengthened by his inclusion.—The Mearns Leader.

OBITUARY.

ARTHUR NEW, M.R.C.V.S., Ampthill, Beds. Graduated, Lond: Apl., 1864.

Mr. New died Feb. 16th, 1918, aged 82.

HENRY SNARRY, M.R.C.V.S., Castleford, Yorks, W.R. N. Edin: Apl., 1876

Died in the year 1916.

FRED. W. THOMPSON, M.R.C.V.S., Reading, Berks. Glas: May, 1893.

Death occurred 22nd March, at the age of 46.

Deliberate spread of Glanders by Germans.

From the Argentine the Allies get a considerable number of mules. Recently some of them were found to be suffering from glanders; and glanders being almost unknown in the Argentine, very careful investigation was made. The result points to the fact that the disease had been communicated by means of inoculation by German secret service agents in the Argentine. They have deliberately introduced into that neutral country a disease which threatens to destroy ...

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anth	rax	Fo and-N Dise		Glan	ders.†	Para Mar	sitic nge. ‡		Swine	Fever.
Perio	d.			Out- breaks	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
Gт. BRITAIN. Week	ende	d March	23	12	14			1	1	117	215	5	14	. 2
Corresponding week in	}	1917 1916 1915		14 12 17	17 15 17			2	9	59 53	121 108	5 7 7	44 80 74	26 292 353
Total for 12 weeks,	1918			83	96			9	29	1756	3395	194	180	70
Corresponding period in	{	1917 1916 1915		167 154 201	198 183 221	1	. 24	7 18 7	12 56 11	957 953	2028 2359	310 148 130	507 978 879	180 3060 3682

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive a) Confirmed. (b) Reported by Local Authorities † Counties affected, animals attacked :- London 1. Board of Agriculture and Fisheries, March 26, 1918 Excluding outbreaks in army horses.

IRELAND. Week ended	Mar.	16	111		 			Outbreaks 3	8		
			***		 			2	8	7	33 60
Corresponding Week in					 				7	5	
	1915	·:	- •		 				_11_	6	33
Total for 11 weeks, 1918			1	1	 			41	131	4	22
	(1917		2,	2	 1	1	1	11	145	49	310
Corresponding period in -	1916		1	5	 			18	161	49	201
. 01	1915				 			10	152	53	295

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 19, 1918. Note. The figures for the Current Year are approximate only. As diseased or Exposed to Infection

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918 :-

나가 그 가지의 프라이지 않아 가게 하나들이가 뭐 이 그 없었다.			
R. Cockburn, Nottingham	£1	1	0
R. B. Cockburn, Capt. A.v.c.	1	1	0
C. W. Elam, Liverpool	1	1	0
R. C. Matthews, Capt. A.v.c. (1917, '18)	2	2	0
J. J. O'Connor, R.V.C. Ireland ('17, '18)	2	2	0
J. D. Rankin, Colne	1	1	0
E. C. Russell, Major A.v.c. (1916-18)	3	3	0
P. Snaith, Bishop Auckland	1	1	0
O. T. Williams, Llangefni	1	1	0
Previously acknowledged	636	2	0
	-		

£649 15 0

Waste of Town Horses.

Mr. Leslie Scott recently introduced to the Home Secretary a deputation of members of Parliament which drew Sir George Cave's attention to the deplorable state of so large a proportion of the horses at work in the streets of London and other great towns at present, and suggested the following remedies :-

1. That definite orders should be given to the police to stop all horses unfit, from whatever causewhether size or condition-for their work, or overloaded, or over-driven, and to have particular regard to boy-drivers and the matter of pace.

2. That the Home Secretary should acquaint the Royal College of Veterinary Surgeons with these orders, and ask them to give their help with horse owners.

3. That steps should be taken to ensure a better

quality of hay being supplied for urban purposes, and its delivery in better condition.

4. That the inspection of the Food Ministry, whose duty it was to see that horses did not get more than the rations allowed under the Orders of the Ministry, should be directed also, as far as possible, to see that horses did not get less.

The Home Secretary expressed strong sympathy with the views of the deputation, and promised to take all possible police action. The Commission of Police, Sir Edward Henry, told the deputation that in the Metropolitan area in the last eight months the police had prosecuted in 1,700 cases of cruelty to horses. Finally, the Controller of Horse Transport at the Board of Trade, Mr. R. H. Selbie, explained that he hoped to arrange with the military authorities, who had control of all hay, to make satisfactory supplies available for the towns .-The Times.

"Business" methods in Government Offices

"T.S.C." writes that he recently went to the Food Controller's Office, 9 Bridge Street, Westminster, to ask about rations for mares in foal, and was told to go to 7 Whitehall Place. When he got there he was told to go 72 Victoria Street, and from there he was referred back again to the original office (9 Bridge Street), where, after waiting half-an-hour, with telephones in full play, he was taken to an office which had to do only with rations for cattle. There he was referred to 7 Whitehall Gardens. He had then already spent $2\frac{1}{2}$ hours in these Government offices .- The Times.

Veterinary Societies-Addresses.

BORDER COUNTIES V.M.S. Pres: Mr. H. Barrow, M.R.C.V.S., Ireby, Carlisle Ton. Sec: Mr. R. Craig Robinson, M.R.C.v.s., Carlisle Meetings, Second Friday of Feb., June, and October

GLASGOW V.M.S.

Yon. Sec. Mr. John S. Keane, 11 Falkland Mansions, Kelvinside

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Asst. Sec. C. W. Heane. Sec: Mr. B. Gorton, M.R.C.v.s.

ASSOCIATION OF VETERINARY OFFICERS OF HEALTH Pres: Mr. T. Douglas, M.R.C.v.s., Kilmarnock Hon, Sec. & Treas. Mr. A. M. Trotter, M.R.C.v.s.,

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10 Red Lion Square, London, W.C. 1.

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LIVERPOOL UNIVERSITY V.M.S. Pres: Mr. J. P. Heyes, F.R.c.v.s., Wigan Hon. Sec: Mr. A. Walker, F.R.C.v.s., Mill Lane, West Derby Pathological Sec: Mr. D. C. Matheson, F.R.C.v.s.

Meetings, May, July, October, January. MIDLAND COUNTIES V.M.A.

Pres: Mr. J. Malcolm, F.R.c.v.s., Birmingham Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S.

Camden House, High-st., West Bromwich
Hon. Treas. Mr. J. J. Burchrall, M.R.C.V.S., Barrow-on-Soar
Meetings, Second Tuesday. Wednesday, Thursday, and
Friday alternately in Feb., May, Aug. and Nov.

NORTH OF ENGLAND V.M.A.

Hon. Sec: T. T. Jack, M.R.c.v.s., 3 Elmwood-st, Sunderland Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH MIDLAND VETERINARY ASSOCIATION Pres: Mr. W. Collinson, M.R.C.V.S., Auston, Sheffield Hon. Sec: Mr. J. S. Lloyd, F.R.C.v.s., Sheffield

NORTH WALES V.M.A Ires: Mr. Hugh Williams. M.R.C.V.S., Ty Croes Lo. Sec. Mr. L. W. Wynn Lloyd, M.R.C.V.S., Carnarvon a. etings, First Tuesday, March and September

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A. Pres: Mr. J. M. Walker, F.R.C.V.S., Hartlepool Hon. Sec. & Treas : Mr. F. H. Sanderson, M R.C.V.S.

Victoria Road, Darlington Meetings, First Friday, Mar., June. Sept. and Dec.

YORKSHIRE VET. ASSOCIATION Pres. Mr. S. E. Sampson, M.R.C.V.S., Hillsboro', Sheffield non. Sec; Mr. J. Clarkson, M.R.C.V.S., Garforth, nr. Leeds Hon. Treas: Mr. A. McCarmick, M.R.C.V.S., Kirkstall-road, Leeds

Southern Branch:

Pres. Sir Stewart Stockman, 4 Whitehall Place, S.W.

CENTRAL V.S. Pres. Prof. G. H. Wooldridge, M.R.C.V.S., R.V. Coll, London Hon. Sec: Mr. H. A. MacCormack, M.R.C.V.S 122 St. George's Avenue, Tufnell Park, N.

Meetings (pro. tem.), First Thursday in October and alternate months, except August,

10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A. Pres. Mr. T. E. Barcham, M.R.C.V.S., Paston, Norfolk Ton Sec. & Treas: Mr.A.C. Holl, M.B.C.v.s., New Buckenham Meetings, Second Tuesday, Feb., July and Sept.

LINCOLNSHIRE AND DISTRICT V.M.S. Pres. Mr. C. W. Townsend, F.R.C.V.S.,

Long Stanton, Cambridge Jon. Sec: & Treas: Mr. Tom Hicks, M.R.C.V.S., Boston Road, Sleaford

Meetings, Second Thursday Feb., June, and October

ROYAL COUNTIES V.M.A.

Pres: Mr. J. Willett, M.R.O.V.S., 6 Harley Place, N.W.

Hon. Sec. & Treas: Mr. G. P. Male, M.R.C.V.S., Reading

Meetings. Last Friday, Jan., April, July and Nov. SOUTHERN COUNTIES V.S.

Pres: Mr. G. H. Livesey, M.R.C.V.S., Hove, Sussex Hon. Sec: Mr. J. T. Angwin, M.R.O.V.S., Arundel (on Service Hon. Treas: Mr. E. W. Baker, M.R.C.V.S., Wimborne Meetings, Last Thursday, Mar., June and Sept.

SOUTH EASTERN V.A. Pres. Mr. E. Lyne Dixson, M.R.C.v.s., Margate Hon. Sec. & Treas. Mr. H. P. Hogben, M.R.C.V.S. 3 Manor Road, Folkestone

WESTERN COUNTIES V.M.A. Pres: Mr. W. Roach, F.R.c.v.s., York Rd., Exeter Hon. Sec. Mr. W. Roech, F.R.O.V.S., 1918 1913, 122505.

Hon. Sec. Mr. W. Ascott, M.R.C.V.S., (on Service)

Mr. C. E. Tucker, M.R.C.V.S., 7 Greville St., Bideford (pro.tem.)

Hon. Treas: Mr. P. G. Bond, M.R.C.V.S., Plymouth

Meetings, Third Thursday, March, July and November

Irish Branch: Pres. Mr. A. Watson, Municipal Buildings, Dublin

Sec., Mr. P.D. Reavy, Leafield, Bundoran, Co. Donegel CENTRAL V.A. OF IRELAND. Pres;

Hon. Sec. Mr. E. C. Winter, FR.G.V.S., Queen-st., Limerick Treas: Mr. J. F. Healy, M.R.G.V.S., Midleton CONNAUGHT V.M.A

Pres. Mr. D. Hamilton, M.R.C.V.S., Ballina Hon. Sec. & Treas. Mr. A. J. Moffett, M.R.C.V.S., Galway VET. MED. ASSN. OF IRELAND.

Pres: Mr. J. H. Norris, M.R.C.V.S., Dublin Hon. Sec: Prof. J.J. O'Conror, M.R.C.V.S., R.V. Coll., Dublin Hon. Sec: Prof. J. J. O Con. of, M.A., M.R.C.V.S., Hon. Treas: Prof. J. F. Craig, M.A., M.R.C.V.S., R.V. Coll., Dublin

NORTH OF IRELAND V.M.A. Pres: Mr. A. M. Crighton, M.R.C.V.S., Lisburn. Hon. Sec; Mr. J. A. Jordan, M.R.C.v.s., Belfast Hon. Treas; Mr. H. McConnell, M.R.C.v.s., Armagh

THE VETERINARY OFFICERS ASSOCIATION FOR IRELAND. Pres: Mr. F. W. Emery, F.R.C.V.S., Dublin Hon. Sec: Mr. T. McGuinness, B.A., M.R.C.V.S. 36 Mount Charles, Belfast

Hon. Treas: Mr. Hannon, M.R.C.V.S.

Scottish Branch:

Pres. Dr. O. Charnock Bradley, Ryl. (Dick) Vet. Coll: Edinburgh Hon. Sec. Prof. A. Gofton, Muncipal Buildings, Edin.

NORTH OF SCOTLAND V.M.S. Pres: Mr. W. Brown, M.R.C.V.S., Marischal Coll: Aberdeen Hon. Sec. & Treas: Mr. G. Howie, M.R.C.V.S. Alford, Aberdeen

Meetings, Last Saturday in January and August ROYAL SCOTTISH V.S.

Pres: Mr. Reid, M.R.c.v.s., Auchtermuchty. SCOTTISH METROPOLITAN V.M.S. Pres: Mr. J. Riddoch, M.R.c.v.s., Edinburgh

Hon. Sec. & Treas: Mr. Jas. Henderson, M.R.C.V.S., Public Health Dept., City Chambers, Edinburgh WEST OF SCOTLAND V.M.A

Pres: Prof. John R. McCall, M.R.C.v.s., Vety. Coll. Glasgow on Service.

Hon. Sec: Mr. J. F. Macintyre, M.R.C.V.S 19 Bank Street, Hillhead, Glasgow Hon. Treas: Mr. Geo. W. Weir, M.R.C.v.s.,

88 Crookston Street, Glasgow Meetings, Second Wednesday, May, Oct. and January

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1552

APRIL 6, 1918.

VOL. XXX.

LONDON HORSES. POLICE COURT PRACTICE.

The last meeting of the Central Society was of more than usual moment. Much of the time was devoted to a discussion on the question of the conservation of London horses; and here it seems certain that some real good has been done. It is stated that the existing legal powers, if properly administered, are sufficient to effect all that is required; and the movement is now receiving such influential support that there is every hope of a good result. The Central Society may fairly be congratulated upon the part it has taken in the matter.

Incidentally one very important question was alluded to, which it is well to have brought before the profession. This was the common practice of allowing one veterinary surgeon to monopolise the cruelty prosecutions of a police court—a bad old plan, the ill-effects of which have been known to London practitioners for decades past. All old London members—and many young ones, could cite many examples of its evils; but it is best dealt with as a question of broad principle. From that standpoint, there can be no doubt that it is objectionable for any one veterinary surgeon to be attached to a particular police court. There is one objection which, though comparatively a minor one, is yet sufficiently serious—that such an individual may succeed in gaining the ear of the Court to such an extent that it is almost useless to attempt to contest his evidence. The main objection was summarised by Prof. Wooldridge's remark that "there was a tendency arising out of the terms of the appointment on the part of such an officer to support the contentions of the police." Undoubtedly such a tendency must exist. No veterinary surgeon need yield to it; but, since its existence is inevitable, it is obviously equally inevitable that some should yield to it more or less. London veterinary surgeons, at any rate, know plenty of instances of men who have so yielded—in some cases to a deplorable extent. The practice may facilitate the working of a busy police court; but it is detrimental alike to the administration of justice and to the credit of the profession. An alteration along such lines as those of the Dublin procedure outlined by Prof. Wooldridge would lead to a far more equitable working of cruelty prosecutions; but it must be admitted that to bring about any alteration will probably be very difficult. Still, if the profession were to take up the question in earnest it ought not to be impossible to effect a change; and no Society could work more powerfully towards that end than the Central.

The whole report of the meeting is a good illustration of the amount of solid work a veterinary society can accomplish—even in these days, and is a proof of the wisdom of the decision to keep our Societies alive and active throughout the war.

AN ABNORMALITY IN PARTURITION.

I was called to a case on March 8 that presented unusual features.

Subject: a dairy cow; time up for calving, but unable to expel the fectus. She had continued in labour about 24 hours before I saw her.

I found the animal uneasy and straining; in the vaginal passage, or just outside about 3 to 4 inches, I noticed the bladder of the cow. The owner had thought it the water bladder, and had suggested opening it. On exploration, the os uteri felt torn and ragged; it could not be opened by the fingers. Just below, in the uterus, there was a large hole, through which the hand could be passed and the fœtus felt—it was alive.

The bladder was pushed back, the case watched, and when the straining commenced the attendant kept the bladder back until the forefeet showed. Ultimately the calf was removed alive; the parts washed with soap and water—there had been hæmorrhage—the cow made to stand high on the hind quarters, and a truss put on.

She did very well, is feeding, fæces and urine normal, no pain, has a good appetite, ruminates, and is making a recovery. How can we explain this?

Plymouth, March 28. P. G. BOND, M.R.C.V.S.

THE PREVENTION AND TREATMENT OF PNEUMONIA ON SHIP-BOARD.

II. W. Laughlin published an article upon this subject in *The American Journal of Veterinary Medicine* for 1917. Of all the diseases to which horses ann mules on ship-board are subject, pneumonia and its complications are the most dangerous. This is due in some measure to the uncertain course of the disease, which is as marked as that seen on land, but more to the unfavourable conditions on ship-board, such as lack of ventilation and, even worse, the rolling of the ship in stormy weather. According to the author, this last cause has been the source of more losses in animals attacked with pneumonia than any other factor.

Prevention of the disease is preferable to treatment; and the author has proved this in the experience of fourteen voyages made conducting animals.

The best preventive methods are, first, frequent and careful observations of all the animals, and second, immediate separation of those which show fever or dulness. Infirm and sickly animals should be put in the most spacious and ventilated place available, and constantly provided with fresh water. In addition to this the author always uses, with good results, the serum indicated against this disease.

The disease may generally be detected in its first stages, when usually the pulse is full. In such a case the author advises immediate bleeding to the amount of 4 to 6 litres, and at the same time an injection into the jugular vein of a litre and a half of physiological serum to which one-eighth of an ounce of soluble iodine has been added. Generally this injection is repeated at the end of forty-eight

The author does not recommend any other treatment, such as stimulants and thoraceutesis.

Treatment, however, is not applicable to cases of septic pneumonia, it is more harmful than beneficial. Not only do all cases of the latter disease terminate fatally, but they usually infect the other animals beside them. For this reason, all animals affected with septic pneumonia should be slaughtered, and the carcases immediately thrown into the sea.

The author has transported 13,000 mules and horses to Egypt, Salonika, England, and Ireland, and has only had 38 deaths—that is, 0.29%. During his last nine voyages he only lost 12 animals, representing 0.12%. Moreover, of the 38 deaths registered, 50% were due to other causes distinct from pneumonia.

Seven of these voyages were to Egypt, and lasted twenty-four days, which speaks strongly in favour of the system of prevention and treatment employed.—(Revista de Higiene y Sanidad Pecuarias).

AN EXPERIMENT IN VACCINATION AGAINST SWINE FEVER.

W. Pfeiler and R. Standfuss have reported the results of an attempt to vaccinate pigs against swine fever by means of a sensibilised virus (Zeitschr. für Immunitälof, 1917). Their virus was represented by a fine emulsion of the spleen and kidneys of animals which had died of the disease. To sensibilise this virus, they added a large quantity of specific serum to the emulsion. The pigs, however, showed themselves so extremely sensitive to the sensibilised virus-vaccine that the majority died at the end of from seven to twelve days. Only one pig survived the injection; and the authors were able to prove that this animal had acquired a very solid immunity.—(Revista de Higiene y Sanidad Pecuarias).

This research may be the first step towards something of value.—Transl.]

THE CENTRAL VETERINARY SOCIETY

[NATIONAL V.M.A.—SOUTHERN BRANCH.]

An ordinary general meeting was held on Thursday, March 7th, at 7 p.m., at 10 Red Lion Square, London, W.C., the President, Prof. G. H. Wooldridge, occupied the chair: and the following Fellows signed the attendance book:—Messrs. J. B. Buxton, W. R. Davis; Capt. ance book:—Messrs. J. B. Buxton, W. R. Davis; Capt. J. F. Edwards; Messrs. R. J. Foreman, A. E. Gostling, G. S. Heatley, H. D. Jones, Herbert King, W. S. King, J. W. McIntosh, H. J. Parkin, W. Perryman, R. A. Philp, J. Willett, W. Willis, and Hugh A. MacCormack, Hon Sec. Visitors:—Messrs. J. Byrne, F. H. Stainton, C. H. P. King, J. McCunn, T. W. Jones, R. W. Down. Minutes of previous meetings. The minutes of the general meeting held in December last, were taken as read, on the motion of Mr. Buxton, seconded by Mr.

read, on the motion of Mr. Buxton, seconded by Mr. Foreman; similarly, the minutes of the special meeting. held in January last, were also taken as read, on the motion of Mr. Davis, seconded by Mr. McIntosh.

CORRESPONDENCE.

The PRESIDENT: The first correspondence to be dealt with arose out of the special meeeting. As then decided upon, the Secretary and himself had written to the Hay Controller and to the Horse Food Controller, letters concerning the food supply to horses, as follows:-

Capt. Attenborough, January, 1918. Hay Controller, 64 Whitehall, S.W. 1.

Sir,

Re The present food supply for London horses.

At the special meeting, held by the Central Veterinary Society on January 3rd, 1918, the following subject was

brought forward for discussion, viz.:
"To consider the ill effects upon horses of the present food supply, and to decide what steps can be taken to remedy or alleviate them."

After prolonged discussion, the following resolution

was unanimously passed:—
"That we, Veterinary Surgeons of London, Fellows of the Central Veterinary Society, view with concern the increasing mortality and depreciation of the horse power of the various London studs, due directly to the insufficiency and defective quality of food-chiefly hay—and while acknowledging the great services which the Horse Food Controller has performed by arranging supplies in emergencies in conjunction with the Army Forage Committee, we urgently desire him to consider what immediate steps can be taken to ensure an adequate supply of proper hay being sent to the Metropolis, and recommend that all such supplies be treated as food material for purposes of transport.

The consensus of opinion of the meeting was that the quantity of food allowed by the Horse Food Controller was sufficient for general purposes, and there was no complaint as to the quantity of food at the source. The chief complaint was in regard to the quality of the hay brought to the Metropolis, often inferior in quality in the first instance, and further, and most important, the deterioration through being delayed on rail—sometimes for weeks—and not being covered, thus getting wet and becoming monldy. The large firms being in a position to do most of their own transport are able to get a sufficiency of hay to hand quickly. The deterioration from delay is thus greatly avoided and their horses do not suffer. The small owners who have to buy this very inferior hay and cut their own chaff, and particularly those who purchase chaff prepared by the hay merchants,

including the 20% of straw, are the real sufferers. If the hay is good, even coarse, the addition of the straw does not matter, but when mouldy, and even rotten, the

case is completely altered.

The mortality in horses of small owners has lately been estimated to have gone up more than 50%. There has been an enormous increase in the incidence of colic. The poor condition of the horses, generally of small owners, in the Metropolis, has been very noticeable. In some cases the animals are so weak that they lie or fall down and are unable to get up, even with help, and have to be destroyed.

The situation is becoming very serious, and we humbly suggest that steps should be taken whereby a fairly constant supply of good hay should be obtainable in the Metropolis, possibly by adding hay to the food list, in order that it may receive priority in transport. By this means much of the trouble would be obviated.

We approach the subject from a National as well as from a humanitarian point of view, as we are in daily contact with these animals and note the gradual change

for the worse that is taking place.

At the meeting in question we were instructed to forward a copy of the resolution with a short explanatory statement to the Hay Controller, and to humbly request that he receive a small deputation to explain the situation more fully.

We shall, therefore, be pleased to arrange a small deputation to wait upon you if you will kindly grant us that honour.—We are, Sir, your obedient servants,

> (Signed) G. H. WOOLDRIDGE, President. HUGH A. MACCORMACK, Hon. Sec.

The Hay Controller replied as follows:-

Copy.

Subject—Shortage of Hay. Ref. No. 14000/Southern/A.M.I. 64 Whitehall Court, London, S.W. 28 Jan., 1918.

The President, Central Vety. Society,

Dear Sir,—With reference to your letter of the 24th inst., addressed to "Capt. Attenborough, Hay Controller," the Head of this Department is General Morgan, who, though very busy and travelling for the major portion of every week, would, I feel sure, be glad to receive a Deputation from such an important Institute. He will not, however, be available this week, and I think a little delay will in the end enable him to give you a more satisfactory reply to the various points you raise, because important negotiations will be made in the distribution of civilian supplies, not only in the Metropolis, but throughout the country.

Meantime, I may, perhaps, dispose of one point you raise by stating that many weeks ago the Railway Executive Committee were persuaded to place hay on the priority food list so far as supply of trucks and rail

facilities are concerned.

This letter shall be brought to General Morgan's notice on his return, when he will probably write you further .- Yours faithfully

(Signed) W. H. DUCKER, Lt.-Col. for A.M.F.C.

In reply to that communication, Prof. Wooldridge had addressed the following letter to the Hay Controller :-

Copy. Royal Veterinary College, Camden Town, N.W. "Shortage of Hay." Ref. No. 14000/Southern/A.M.I. Feb. 4, 1918.

Central Veterinary Society.

before the Society at their next meeting.

I am very pleased to hear that hay has already been placed on the priority food list, and I feel that will go far towards relieving the situation.

If General Morgan is of opinion that we can help him in any way, the suggested deputation will still be pleased to wait upon him. I regret that through any ambiguity of mine, former communications failed to reach me.

Yours faithfully, (Signed) Geo. H. Wooldridge.

To the

Adminsitrative Member, Forage Committee 64 Whitehall Court, S.W. 1.

From the foregoing, the President remarked, it would appear that the question of giving priority to hay had been under consideration before the subject had been broached by the Central Veterinary Society.

The communication made to the Horse Food Con-

troller ran as follows:-

Com.

Selby, Esq.,
Horse Food Controller, January, 1918. 7 Whitehall Gardens, S.W. 1.

Dear Sir,

Re The present food supply for London horses. [Subject and Resolution as in letter above to Capt. Attenborough.]

We were instructed to forward a copy of the resolution to the Horse Food Controller, and to express the hope that he may be able to apply his authority to the relief of the serious situation. If it is in our power to assist in any way, we gladly offer our humble services.

We are, Sir, your obedient servants,
Signed)
GEO. H. WOOLDRIDGE, President.
HUGH A. MACCORMACK, Hon. Sec. (Signed)

In reply, the Secretary received the following letter:—

Board of Trade Copy.Department of Horse Supplies snd Transport, 7 Whitehall Gardens, S.W. 1. January 28, 1918.

Dear Sir,—I am in receipt of the letter signed by yourself and Prof. Wooldridge, in reference to the shortage in the supplies of horse feed, particularly Hay, in the London district, I am obliged for the copy of the resolution passed at the recent special meeting of your Society on the subject. The matter is receiving my constant attention and I hope it will soon be possible to make such an arrangement that will put the question of supplies on a more satisfactory footing.

Yours faithfully,

(Claned) R. H. SELBIE,

Worse T Controller of Horse Transport. Hugh A. MacCormack, Esq., Hon. Sec. C.V.S.

The President pointed out that so far the Society had done all that it could, and he would ask the meeting if there were any other items requiring attention, or any suggestion to be made.

Mr. Jones raised the question of the 20 % straw in chaff Order, which, he stated, had been disputed by Mr.

Irving at the last meeting.

The PRESIDENT said there was some ambiguity. It was whether a man cutting chaff for his own horses could be said to be manufacturing chaff within the terms of the Order. It was not difficult to see that Mr. Irving might take a different view of the matter.

Mr. McIntosii regarded the replies as satisfactory. Dear Sir,—I beg to thank you for your very courteous reply to the communication of the above Society forwarded to the Hon. Sec. and myself. I will place it dition of their horses. He believed that the representative was making other visits, and it was possible that

these visits were a result of the letter which had been sent. Perhaps, after the facts had been ascertained, the matter would be further considered. At all events a Government official had been round to look into the effects of the present food supply.

The Secretary announced that he had received a letter from Mr. Stroud, regretting his inability to attend.

The following letter had been received from the London Cartage Contractors Horse Owners Association :-

Copy.

17 Water Lane, Great Tower St., E.C. 3. Geo. H. Wooldridge, Esq., R. V. Coll., Camden Town, N.W. 1.

Dear Sir,-In reply to your letter dated 18th inst., I am instructed by my Committee to tender you our most sincere thanks for the generous donation you have been good enough to forward us in aid of our Red Cross Ambulance Fund.—Yours faithfully, (Signed) H. A. JAGER, Hon. Sec.

4th January, 1918. per M. M.

The President said that Capt. Andrews, who was to have read a paper that evening on "Anthrax in the Horse," had telegraphed in the afternoon: "Regret unable to come. Confined to bed. Acute rheumatism.

Unfortunately, Capt. Andrews had only prepared rough notes of his paper, and had been prevented by his illness from putting them into shape for delivery. He

had received a letter from Capt. Andrews. Continuing, Prof. Wooldridge remarked that, if time permitted, Capt. Edwards would give the meeting the benefit of the rough notes of Capt. Andrews' paper, which he (Capt. Edwards) had brought. If no time were available, the reading of the paper would have to

be deferred to some other meeting.

Prof. WOOLDRIDGE next dealt with the letter from Mr. Jager, relating to the sum of £5 5s., which the Society had recommended to the Council should be contributed to the Red Cross Ambulance Fund. On coming before the Council, it appeared that there had been a misunderstanding of the preliminary invitation to sub-scribe; the ambulance was not for horses, but for wounded soldiers. Some doubt as to the propriety of making this donation arose, but the Council generally considered that had the preliminary invitation been correctly understood in the first place, the grant would still have been made. Consequently the donation was made, through the Horse Owners Association, to the Red Cross Ambulance Fund, and he would ask for the approval of the meeting.

THE VICTORIA VETERINARY BENEVOLENT FUND.

The President observed that at the last meeting of the Victoria Veterinary Benevolent Fund the constitu-tion of the Council had been changed, and a new set of Rules drafted. Owing to pressure of business, these Rules had not been fully discussed, but were adopted. A feature of the new constitution was the admission of representatives from Societies making annual subscriptions. The Secretary and Treasurer of the Fund had written accordingly to the Central Veterinary Society, but the donation made, although fairly regular, did not entitle the Society to representation as annual subscribers. He believed that most members of the Society were also members of the Fund. It was open to the Society to convert their donation into an annual subscription, a course which would aid the Fuud in arriving at their annual income. The minimum subscription entitling to membership of the Fund was 10/6, and the

The letter addressed to the Society was in these terms:-10 Red Lion Square, W.C. 1. 23rd Feb., 1918. Copy.

Dear Sir,-I beg to inform you that in accordance with Revised Bye-laws adopted at the meeting of Council in January last (see Veterinary News of Feb. 2) the constitution of the Council has been revised, and after adoption of the Bye-laws at the next Annual General Meeting in June, the Council will include members representative of the Veterinary Societies subscribing to the Fund. Your Society has been good enough in the past to make occasional contributions to the Fund, and if it should decide to continue its valuable assistance by making an annual subscription, it will, as a matter of course, be entitled to representation on the Council. I should be glad, therefore, if you will kindly bring the matter before the Society at the first opportunity, and inform me in due course whether it will be able to make an annual subscription, and if so, to let me know the name of the member nominated to serve on the Council.—Yours faithfully,
(Signed) Fred Bullock, Secretary.
H. A. MacCormack, Esq., Hon. Sec.

Mr. WILLETT, feeling that the Society should be represented on the Fund, proposed that an annual subscription be made by the Central Veterinary Society to the Victoria Benevolent Fund, the Society thereby becoming members of the Fund. Mr. Jones seconded the proposal.

Discussion followed as to fixing the amount, Prof. Wooldridge contending that it was undesirable to fix the amount, which it might be necessary to vary in accord-

ance with circumstances.

Mr. WILLETT did not wish to press the point, The proposal was put to the meeting, and carried unanimnosly.

Upon the President requesting the meeting to nominate a representative, Mr. Willett asked if the Council of the Fund were to be rearranged. Prof. Wooldridge explained that, in all probability the present members of the Council would remain, and would be supplemented by representatives from local societies.

Mr. WILLETT wished to understand clearly; otherwise a member of the Central Veterinary Society who might also be a member of Council of the Fund might cease to be a member of that Council under the new

rules

The PRESIDENT said that if, at the next meeting, that were found to be so, the matter could be reconsidered. For the present a member might be nominated who was not a member of Council of the Fund.

Mr. WILLETT then proposed, and Mr. Perryman seconded, that Mr. McIntosh be nominated to represent the Society on the Council of the Victoria Benevolent Fund.

This proposal was put to the meeting, and carried unanimously, Mr. McIntosh consenting to act.

NATIONAL VETERINARY MEDICAL ASSOCIATION.

The PRESIDENT pointed to the rule entitling the Central Veterinary Society to be represented by one member for every twenty-five (or part of twenty-five) members of the C.V.S. Accordingly, in strictness, the Society, having 64 or 66 members, was only entitled to represented by three members of Council of the National. At the last election the Society was, in fact, entitled to six members; not that the membership of the C.V.S. had since diminished, but, in consequence of the present rule of the Society that members serving abroad should Society granted a donation of 5 or 10 guineas. It was for the meeting to say if the suggested modification should be made, and, if so, to nominate a representative

representation; at all events he thought the meeting might meanwhile assume that to be so. As an ex-officio member of the Council of the National, he would regard it as his duty to support that assumption, should the National Veterinary Medical Association bring the point up. The existing representatives for the C.V.S. were Messrs. J. W. McIntosh, R. J. Foreman, S. H. Slocock, W. R. Davis, J. Willett, and Prof. Macqueen. As Prof. Macqueen had resigned the Central Veterinary Society, only five of these members of the National, and, on the assumption that these five members would be continued in their office, it remained for the meeting to elect a sixth representative.

The SECRETARY then proposed the re-election of the of the existing members, and, in addition, suject to his consent, Mr. J. B. Buxton. This was seconded by Mr.

H. King.
The President then put the proposal to the meeting: That the before-mentioned gentlemen be re-elected as members on the Council of the N.V.M.A., the name of Mr. J. B. Buxton be substituted for that of Professor Macqueen. The proposal was carried unanimously.

Nomination of Fellow. The President nominated for election Mr. F. H. Stainton. This matter would come forward at the next meeting.

MORBID SPECIMEN.

Mr. PERRYMAN produced the skeleton of a horse taken from an uterus. It was, he believed, complete, and was interesting as an illustration of what nature could do without actually destroying life. The bones were contained within the uterus with a few fragments of skin and the hoofs. The uterus had been removed intact, and brought to London for Mr. Perryman's inspection. It was a fact of peculiar interest that the whole of the fœtus had been absorbed except the portions mentioned. From the size of the bones and their tolerable hardness, the period of gestation must have been well advanced. He believed that if set up, the skeleton would be found to be practically complete. He had found the uterus thickened, and it contained grumous matter. Such cases were rare. In answer to Mr. Davis, the speaker stated that there was no discharge, and no evidence that anything was wrong with the mare, except that the animal was very poor.

The PRESIDENT remarked that it would be a graceful

thing if Mr. Perryman had the bones articulated.
Mr. WILLETT said it would be interesting to know
when the absorption occurred. The bones being apparently matured, the fœtus must have been in the uterus

Mr. Davis stated that he had frequently observed cases in cows which went over their time and did not calve, but subsequently the cow at intervals kept passing feetal bones. There seemed to be little general disturbance, and the animal usually fatted well.

Mr. Perryman considered the fœtus to have been present for the best part of a year.

SUGGESTED MEMORIAL TO HOME SECRETARY re THE UNSATISFACTORY CONDITION OF HORSES.

THE PRESIDENT briefly recapitulated the circumstances. One aspect had, he said been already considered, and the matter had been admirably set forth by Mr. Jones at the special meeting. The principal cause of the unsatisfactory condition of working horses bad food, had been attacked; there were other causes scarcely less important, but power and time did not exist for dealing with them. Other bodies, lay bodies among them, had observed the deterioration of horseflesh, and had interested themselves in improving the unsatisfactory conditions. Mr. Leslie Scott, K.C., M.P., had taken a leading part in the matter, and had invited the co-operation of the Central Veterinary Society, not ap-

parently aware that the Society were moving in the matter. Mr. Leslie Scott had approached Mr. Stainton on the question, and it had since been pointed out to Mr. Stainton that the Society had already taken certain steps. Mr. Leslie Scott being a persona grata with the Home Secretary, the matter would be pressed forward quickly. A draft of a memorandum had been drawn up and submitted to the speaker, and he had suggested certain modifications, Other members had also seen doubtful points, and it was consequently suggested to Mr. Leslie Scott, through Mr. Stainton, that it would be better to delay matters a little, so as to render the cooperation of the Society more serviceable. He was sure that no one present at the meeting would do other than his best to improve the present lot of horses. There were, unquestionably, difficulties, and every effort should be made to overcome these. The draft memorandum (which he proposed to read) was in certain respects a little unsatisfactory. He also intended to read a letter from Mr. Leslie Scott to Mr. Stainton. These documents would furnish an adequate basis for discussion.

To the Right Honourable the Home Secretary.

We, the undersigned members of the Veterinary Profession, beg to draw your attention to the deplorable condition of the horses now working in the streets of London—a condition which we know is as bad, if not worse, in the provinces.

During the last two years the deterioration of the Nation's horse-power has been progressive, and it has now culminated in a degree of incapacity for work, and resultant mortality which is both a public scandal and a serious aggravation of the national difficulties in regard to transport. The more important factors are the

following :-

- The better horses having been taken for Army
- An insufficient quantity and inferior quality of food.
- Longer hours of work and overloading: i.e., more is demanded of the animal in respect of weight of load, or hours of work, or pace than its condition, nourishment, size, or age, warrants.
- Unskilful and careless driving—particularly due to the number of boy drivers, who are utterly inexperienced and frequently cruel.
- The practice of selling aged animals no longer reasonably capable of work, which can be bought for a few pounds and are worked till they drop.

In view of the shortage of petrol, it is a matter of national moment that our horse-power should be husbanded as carefully as possible. Under existing conditions it is being recklessly wasted. The only way to keep a horse fit for work is to feed it adequately, tend it well, drive it carefully, and not ask of it work beyond its powers. A large majority of the horses in London are to-day being overworked.

The remedies we suggest are :-

A general warning should be issued to owners and drivers of horses drawing attention to the underfeeding, overloading and overworking and overdriving of horses, and the bad condition of the horses arising therefrom, resulting in the actual loss of their working power, and often necessitating slaughter.

It should also be intimated that more rigorous inspection would be instituted, to be followed by presecution in proved cases of active or passive cruelty. These powers are already prescribed by the Cruelty to Animals

proper rations of food. In this respect it should be also realised that owners of horses are not entirely to blame. There is often very great difficulty and sometimes it is quite impossible to obtain supplies of such essential foods as hay, while the latter, when obtained, is often damaged and mouldy and quite unfit for food, and has to be used since none other is at the time procurable. Deficient transport of hay is mainly responsible for this. We recognise that difficulties of evidence will exist, but the power of entry, and action thereon will be of value.

3. No horse should be allowed to be sold which is obviously past work.

If practicable, it would be a great advantage that all drivers should be licensed, and wear their number badge.

In our opinion it is a matter of urgency in connection with the war that the present wastage of our horse-power should cease: but we also desire as veterinary surgeons to emphasize the humanitarian side of this question, and to ask that everything possible should be done to prevent the cruelty and wastage which now exist.

Criticising the items as he proceeded, Prof. Wooldridge regarded No. 1 as satisfactory. No. 2 required modification on account of its importance, and was the item which presented the greatest difficulty; it would provide power of entry, inspection of papers, and methods of feeding, and so on. (It was pointed out that the police had now power to inspect papers and ascertain what amount of fodder horses were receiving, but not power

to inspect food or fodder.)

Mr. McIntosh said that while fully appreciating the good spirit behind the suggestions put forward for consideration that evening; as a matter of Parliamentary procedure he thought they were quite impossible. He gave way to no one in a genuine desire to prevent cruelty, and he was willing to assist any reasonable proposal in that direction; at the same time we must be careful not to allow our sympathies to out-balance our judgment. So long as the horse played the important part he does in the transport work of our large cities, so long must reasonable minds and reasonable methods be applied to his working. He was in agreement with the first part of the memorandum, which he thought was fully covered in the resolution passed at our last meeting. Clause 2, however, was much too sweeping, and as a matter of practical procedure, untenable. Even allowing it to be entertained for a moment as a basis for discussion, he would like to know to whom it was proposed to entrust these important duties? We are already familiar with the manner in which many of these inspections are carried out, and if the principles adopted in the past are to form an index to the methods for the future, he, for one, would be sorry to subscribe his support.

A further suggestion was the destruction of all horses obviously unfit for work. Here, again, he would ask: Who is to decide? He thought it the concern of the veterinary profession to see that the competency of the control was in keeping with the importance of the

For work of this kind we want men who are above suspicion-men recognised by the profession as capable and fairminded, men who will not be influenced from the straight course because of party desire or otherwise.

After 25 years experience as a veterinary surgeon, a considerable portion of which has been devoted to the supervision of a stud engaged entirely in the transport work of London, he was satisfied that too arbitrary powers in the hands of the authorities was extremely dangerous, and unless the methods of control are altered persecution; and even extortion, might easily follow. While he appreciated very highly the principle of the memorandum, he warned the Fellows to pause, and consider very carefully its far-reaching possibilities before lending their support.

In reply to a question from the President, Mr. McIntosh observed that he had not had full opportunity to consider the memorandum in detail, as Mr. Stainton had not supplied a copy, as promised. He did not think that any fresh legislation was required or desirable. The present "Act" was sufficiently wide in its scope to deal with all cases of cruelty from whatever cause arising, be it overloading or underfeeding. He was not a believer in too much of the "iron hand." He thought much more good would result if the profession were to urge their clients to maintain a higher standard of fitness in their horse power, and to assist them by advice and otherwise, in avoiding all acts of cruelty.

In further reply to the President's contention, that the memo. might serve as a basis of discussion Mr. McIntosh remarked that the existing powers were quite adequate. What was wrong was the methods of administration. Take for instance the question of over-loading. Evidence was frequently given in the Courts (and accepted by persons, who were as ignorant of the animal's capabilites as a boy driver. Given two animals of equal size and weight and similar work to do, the one can do his task with comparative ease; the other only with the greatest apparent difficulty. Weight and size is not always an indication of power, in fact, it is very often the reverse. What does count is the "standard of fitness." And this is the "standard" which ought to apply to the Inspector who gives evidence.

The PRESIDENT then read Mr. Leslie Scotts letter :-

Dear Mr. Stainton,

I am sorry to say that I cannot avail myself of the kind invitation of your Association to attend their meeting to-night, when you are to discuss this very important question of the present question of the present condition of our draft horses. Perhaps, as I cannot be present, you will let me put one or two points before you

for submission to the meeting:

1. I have taken the subject up because I am so concerned with the present condition of affairs that I think action is imperative. Not only is there much cruelty to the horses, but the Nation's stock of draft horses is getting used up at an alarming rate. There is little prospect of the war ending for at least two years, and if the draft horses of the country engaged in town work are worked to the extent they are on the food that they are now getting, long before the two years have elapsed our stock will be so used up as to very seriously aggravate our transport difficulties. I therefore regard it as essentially a national matter to take such steps as will husband our horse resources and make them last as long as possible.

2. I know how your profession are putting out every effort to amelicrate the position, but I cannot help thinking that the Veterinary Surgeons of the country might be substantially helped in their efforts if

certain measures were taken.

3. I propose jointly with a few other members of Parliament to discuss the whole question one day next week with the Home Secretary, and to put before him the considered views at which you arrive this

evening.

4. One does not want to make new regulations or to create new officials if it can possibly be avoided. In my opinion the police ought to be able to do all that is necessary in the way of inspection and control; but what seems to me imperative is that they should receive peremptory orders that it is their duty to stop every horse which they see unfit for the work it is being asked to do. Sometimes the load is too heavy; sometimes the condition of the horse is bad; sometimes the horse has been worked so many hours continuously that it is tired out

Frequently, and this is especially so with boy drivers, the pace at which a horse is driven is unnecessarily rapid. If the police were told that it was their duty to stop horses and to summon the drivers under such circumstances—and the owners also where they can be held responsible—I think that your profession would find their task very much lighter.

5. I should, personally, have liked to see some power of inspecting stables for the purpose of ascertaining what rations the horses are in fact receiving, but this is, I appreciate, a difficult problem, and I can only express the hope that you may find some way

of dealing with it.

6. Perhaps you can see your way to drawing attention to the bad condition in which much of the fodder reaches the horses. This undoubtedly is due largely to hay being detained in transit and exposed to

In conclusion I would say, if there is any way in which I can be of assistance I am at your service.—Yours truly, LESLIE SCOTT, K.C., M.P.

From this letter, Prof. Wooldridge said, it would be seen that the idea in mind was the amelioration of the present conditions for horses, and their conservation for transport. Any suggestions the meeting desired to make

would be transmitted to Mr. Leslie Scott.

Mr. Stainton, at the call of the President, admitted that the original draft might not be quite adequate or practicable. On the other hand Mr. Leslie Scott merely needed corroboration of his views from the C.V.S.; the main point was that the state of the horses needed improvement. If the means of reaching this improvement could be suggested, so much the better. Mr. Leslie Scott would not approach the Home Secretary without adequate grounds, but the speaker thought the Society were sufficiently concerned to lend their support. Time was getting short, and if the C.V.S. could promptly assure Mr. Leslie Scott of their support, the latter would be enabled at once to see Sir George Cave and set the

ball rolling.

Mr. McIntosh considered that the resolution at the last meeting conveyed the necessary support, in relation both to working and feeding horses.

Mr. Davis regarded the food as the crux of the whole matter. Provide oats for the horses and much of their incapacity would be removed. But where to obtain oats? The oats or maize were not to be bought; and in that case it was useless to talk of feeding horses better. If Mr. Leslie Scott could induce the Home Secretary to release sufficient oats, no doubt the condition of the animals could be improved. Questions of working lame horses, and other cruelties towards them were matters for the police; but, unfortunately, witnesses frequently gave evidence in Courts more to secure convictions than

to prevent cruelties.

Mr. Perryman considered that the results of the last meeting furnished evidence of agreement, but Mr. Leslie Scott was not apparently aware that the C.V.S. had dealt so strongly with the question. He concurred with Mr. McIntosh as to the powers of intervention belonging to the police—if they would use them. He could stop to the police—if they would use them. He could stop enough animals in a day to fill the courts for a week. In the case of poor horses, it would be for the owner to prove proper feeding, which he could do by his books and invoices. Again, there was plenty of evidence to show whether a charge of overworking was just or not. He felt strongly that a rule should be made that no "heavy" horses should be, as now, trotted or galloped from one and of London to another: that would confrom one end of London to another; that would conserve horse-power. With regard to feeding, as Mr. Davis has said, oats could not be got. Hay fodders were frequently impossible, and he had, the day before, seen some of the filthiest stuff, that was going to be cut up for chaff. The large horse-owners would, he was confi-

dent, willingly give their animals more food if procurable, and would not fear inspection. In many cases, however, he thought the small owner should be protected. since he was much at the mercy of the corn chandler, The speaker narrated the case of an owner who had lost six or seven horses since Christmas last, and investigation elicited the fact that the animals had been fed on a mixture, supposed to be of corn and chaff. He considered that the corn merchant should be compelled to state the composition of mixtures he sold. It was described as a horse corn mixture. Such a term could be applied if it only contained 7lb. of corn to the cwt. It was charged at 16s. a cwt. As chaff could be bought at 9s. there should be 7s. value in corn. But a sample taken frequently showed very little corn. If the cob had been given two or three cwt. a week, the weight would have been adequate, but not the mixture value. It was such cases to which the Home Secretary's attention should be called. (Mr. Perryman submitted a sample of the mixture to the meeting). He thought that the two points he raised called for attention, and, if remedied, would help much to remove the present troubles.

Mr. WILLETT agreed with the last speaker's suggestion in regard to the trotting of horses. In some cases owners were fined because the people who had hired their horses had overloaded them. There were cases too in which horses had stopped going up an incline with a moderate load, slightly slippery perhaps after a shower; the horse slipped about, broke into a perspiration and jibbed. These cases were often definitely stated as overloading cases, but had the weather been more favourable the horse would have done the work without mishap. He could recall cases in which owners were summoned because a horse had broken out in a perspiration due to shock, excitement, or slipping, or had fallen over in starting. These were serious matters for the owners of horses, who knew nothing of the circumstances until the police informed him. He thought these points should be considered in any recommendations. With regard to cases of underfeeding where prosecutions might follow, he felt that the work of inspection should be entrusted to a board of three experts, and not to any one individual. Inspection by three experts would give the magistrate something definite upon which he might act. The speaker contended that the veterinary surgeon for the defence had little influence with the court in such cases. Such a course would obviate much dissatisfaction on the part of members of the profession attending studs.

Mr. Jones also felt that the C.V.S. was in agreement with Mr. Stainton. An inspection of stables was carried on, certainly, but the object was to see that the horses were not given too much corn, and not to investigate underfeeding. If cereals in excess of the rations were given one was liable to a prosecution. He agreed with Mr. McIntosh's remarks—if the proposed remedies were applied they would meet with opposition from horse-owners. As to licensing drivers, there was such a shortage of the latter that if it became necessary for them to be licensed half the horses would never be taken out. He considered the proposal unworkable, on several grounds, in the middle of war time. As to the sale of horses "obviously past work," referred to by Mr. McIntosh, he would ask the meaning of the phrase; and, further, who was to decide when a horse was obviously past work? With regard to inspection, if, in accordance with Mr. McIntosh's suggestion, it were conducted by a veterinary surgeon who knew his business, he was in agreement; but if by a layman, he was not. He believed that most of the big firms had issued warnings against overdriving. His firm had informed customers of the shortage of forage, and that the fodder was of inferior quality; also that they had cut down the mileage.

The President observed that Mr. Byrne, Mr. Leslie Scott's private secretary, who was present, had notified to the speaker that he did not think there was any idea of fresh legislation or of securing further powers. What Mr. Scott desired was additional vigour for the enforcement of the existing law, and Prof. Wooldridge believed the meeting were agreed on that point. He thought that general practitioners in the metropolis would be ready to assist in improving the method of carrying out the law as it stood. He agreed in thinking it pernicious that a veterinary surgeon should be attached to a particular court. There was a tendency arising out of the terms of appointment, on the part of such an officer to support the contentions of the police. On the question of remedy, he might refer to his experience in Dublin of a method with regard to which he had some say. Instead of taking a horse, when stopped, to the police station and calling in a veterinary surgeon attached to the court, the police were instructed to call in the veterinary surgeon who lived nearest to the place where the horse was stopped. Again, the veterinary surgeons of Dublin agreed, in order to prevent cruelty and to ameliorate the bad condition of horses, to give their first opinion in such cases free of charge. The surgeon called in was independent; he might never again be asked by the the police to adjudicate; in the majority of cases he would be unknown to the owner, and his opinion would be unbiassed. If the veterinary surgeon said that the horse was unfit and the owner was culpable, a prosecution would take place; if he said the horse was capable of working, it would be allowed to go on. If, however, the veterinary surgeon stated that the horse was unfit from accidental causes, the horse would be stopped, but no prosecution would take place. If adopted in London, the practice might avoid the liability of the veterinary surgeon attached to the court to regard himself in the light of a counsel for the prosecution. The method appeared more workable than a board of three experts, who could ill be spared for inspection at the present juncture.

Two other factors contributed to the present condition of horses. One was, not feeding them to the permissible standard—Mr. Jones had dealt with this in his paper. It appears that some take advantage of the order limiting the amount of food to save themselves expense. Mr. McIntosh had said that he had no sympathy with such There were instances, however, which were inwoluntary on the owner's part, as in the case of the material submitted by Mr. Perryman. A horse fed on that substance could not work; there was no corn in it. There was only one remedy, namely, that there should be inspection of all stuff sent out for horse food—of dealer's stocks, just as there was inspection of food for human consumption. The Society was convinced that much of the existing trouble was caused by improper food, and the provision suggested was one way of effecting a check upon this. To Mr. Perryman's suggestion that dealers should state the composition of their mix-tures, he would add penalties for any failure of the food

to come up to representation.

Prof. Wooldridge realised, with Mr. Jones, the difficulties of licensing drivers. Many that are employed to day would be unequal to passing even a moderate test. Capable interim drivers, ordinarily engaged on other work, would not be available under a licensing

system. In conclusion, he would like to suggest that a short digest of Mr. Jones' paper, together with the discussion at the last meeting, be submitted to Mr. Leslie Scott, to which should be added the suggestions made at the

which prosecutions were about to be instituted, might be included.

Mr. Davis referred to the practice among carters coming to London of selling the contents of the nose bags. If some means of catching the men who tempted drivers to sell could be devised it would be an advantage. Mr. Davis narrated the circumstances attending the case of a mare which was down and could not get up; the animal was very thin (although the other horses on the farm were in good condition), having been victimised by the driver in the way referred to. The practice was quite common and was well known to exist.

The SECRETARY proposed a hearty vote of thanks to Mr. Leslie Scott for the interest he had taken in the horses of London, adding that the Society would be pleased to come forward in support of any measures to ameliorate the condition of horses in London.

Mr. WILLETT seconded the proposal, which on being at to the meeting was carried unanimously.

Mr. McIntosh proposed, and Mr. Jones seconded, that Mr. Leslie Scott be informed that, in the opinion of the Society the powers now existing were adequate if properly carried out.

Considerable discussion ensued, with the result that the resolution proposed by Mr. McIntosh and seconded by Mr. Jones took the following form:

"That a short digest of Mr. Jones' paper, drawing

attention to the special points which have been emphasised to-night, be forwarded to Mr. Leslie Scott, together with the expression of opinion that sufficient powers are already in existence if they were properly administered, and suggesting to him that his idea of licensing drivers is impracticable."

Mr. McIntosh stated that he had no objection to a

reference to inspection of food being added, if such in-spection could be reasonably adopted and carefully

controlled.

The resolution was then put to the meeting and carried unanimously.

Mr. Jones proposed a hearty vote of thanks to Mr. Perryman for submitting his morbid specimen. Mr. King seconded, and was supported by the President, who also supported the suggestion that the bones should be set up.

Mr. BYRNE said that he was certain Mr. Leslie Scott would be extremely sorry that he had not the opportunity to attend the meeting and listen to the exceedingly interesting discussion—perhaps have been privileged to assist in it. He desired on Mr. Leslie Scott's behalf to thank all the Fellows present for the handsome vote of thanks which had been passed. He would like, further, to express his personal gratitude to the Chairman and Fellows for permitting him to be present.

The meeting then terminated.

HUGH A. MACCORMACK, Hon. Sec.

Communal Pig-feeding.

Proposals for communal piggeries and the collection of household refuse for the feeding of pigs were discussed at a conference of members of local authorities within the Western Live Stock Area of Scotland, held on March 25th in the Windsor Hotel, Glasgow. Mr. A. P. M'Dougall, Live Stock Commissioner, presided.

The Chairman said it would be criminal neglect for us not to realise that we were now entering upon a stage of the war which compelled us to take advantage of any method whereby our food supplies could be conserved and increased, and our resources utilised to the utmost advantage. In our cities and villages we were carting meeting that night—one, the inspection of stocks and the declaration of mixtures; and the other, the impracticability of licensing drivers. Further, the suggestion of a better selection of veterinary inspectors, in cases in shortage of cattle feeding stuffs and millers' by-products was so serious that there was little doubt we would have next to nothing to spare for pigs. If each citizen realised his or her responsibility, then that most valuable animal might be saved. He was glad to be able to inform them that the Local Government Board of Scotland and the Local Government Board of Scotland by Scotland Board of Sc land had agreed to assist in every possible way to overcome any difficulties in regard to piggeries which might arise through local by-laws.

Councillor Allan, Glasgow, said the Corporation Sub-Committee had considered the question of refuse receptacles, and found that the cost would be absolutely prohibitive. The Cleansing Committee had decided to take a district in the west and one in the east, and perhaps one in the south of the city, and invite householders voluntarily to gather refuse, which might be collected by the committee by motor vehicle or in some other way.

Mr. Young, Skerrington Mains, Hurlford, referring to apprehensions regarding swine fever, said that the in-

oculation of pigs had proved a great success.

Lord Rhondda had agreed to issue priority certificates for pigs as well as for dairy cows. To increase the stock of thirds the Department would not look with favour on any proposal to reduce the amount of flour produced from the wheat. He was afraid the reverse would be the case. The supply of young pigs could quickly be augmented when it was seen there was a demand for them.

A resolution was adopted approving of proposals to foster pig-breeding by means of municipal and communal piggeries, and recommending that all municipal and local authorities should immediately consider ways and means of doing so without in any way interfering with present pig breeders, and that all reasonable steps be taken to collect waste and household refuse. The resolution further recommended that an Order should be issued by the Food Controller making such collection compulsory, and giving powers to all rating authorities to borrow funds for all purposes relating to the question. North British Agriculturist.

Joint-ill.

At the forty-first annual general meeting of the members of the Clydesdale Horse Society held on Wednesday evening, March 6th, in the hall of the Religious Institution Rooms, 200 Buchanan Street, Glasgow, Mr. James Kirkpatrick, Craigie Mains, Kilmarnock, vice-president, in the chair, Mr. George A. Ferguson moved the adoption of the following report dated 5th March:—

"The Committee have to report that they have held five meetings during the year. The work during season 1917 was designed to proceed along two main lines:— (1) An enquiry into the conditions under which it is and has been occurring in the past. Sub-committees of has been occurring in the past. Sub-committees of breeders and veterinary surgeons were appointed at Aberdeen, Glasgow, and Edinburgh, under the cenvenership of Mr. William Brown, Prof. R. McCall (whose place was taken by Mr. T. B. Hamilton, M.R.C.V.S.), and Principal O. Charnock Bradley respectively. The results under this head of inquiry have, however, not have sufficient to warrant the forming of any general been sufficient to warrant the forming of any general conclusions.

The second line of investigation has yielded much better results. The committee were fortunate, through better results. The committee were fortunate, through the good offices of Prof. McCall, before he was called away, in enlisting the services of Dr. R. M. Buchanan, his assistant, Dr. Jope, and Mr. T. B. Hamilton, M.R.C.V.S.; and Mr. Hamilton and Dr. Jope, under Dr. Buchanan's supervision and advice, have been able to secure some definite and distinct results. At a meeting of the Scientific Sub-committee held on Monday, 4th March, an interesting account of this laboratory work was submitted teresting account of this laboratory work was submitted, in the Great Battle.

and Profs. Muir, Dewar, and McCall, who were present, all expressed gratification with the results so far.

The committee have resolved to adopt the recommendation of the Scientific Sub-committee and proceed on the assumption that the conclusions based on the work of 1917 are well-founded. These conclusions will be tested experimentally, and this will entail the purchase of a certain number of foals, free from the disease of joint-ill, but otherwise so affected as not likely to possess much if any commercial value. It will be necessary to have closer and more general co-operation between local practitioners and breeders on the one hand, and the committee on the other than obtained during the season of 1917. To this end efforts should be made to explain to breeders the hopefulness of the lines of inquiry which have been followed. A history of selected cases from those which were dealt with during 1917 will be prepared under the supervision of Dr. Buchanan and Dr. Jope, and Mr. Hamilton, and this history will be published, while copies will be furnished to the Board of Agriculture for Scotland and this Society.

The Board of Agriculture have intimated to the committee that the Society of Breeders of Border Leicester Sheep has expressed a desire to be associated in this inquiry, and has voted £50 towards the cost. A similar sum has been granted by the Board of Agriculture. At their meeting on Tuesday, 5th March, the committee resolved, after consultation with those best qualified to advise in the matter, that the proposal would require further consideration than can be given it at this stage.

This report was agreed to.—Scottish Farmer.

Proposed exemption of Veterinary Students.

At a meeting of the directors of the Highland and Agricultural Society of Scotland held on Wednesday, 6th ult., in the society's chambers, 3 George IV. Bridge, Edinburgh, Mr. C. M. Douglas, C.B., D.Sc., in the chair, a letter was read from the secretary of the Royal College of Veterinary Surgeons, suggesting that the Society should use its influence to have students exempted from military service in order that the supply of qualified men should be adequate after the war. There was a serious danger of a shortage if things went on as they were doing.

After some remarks by the Chairman and Sir Hugh Shaw Stewart, the letter was submitted the the Science Committee.

ARMY VETERINARY SERVICE.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, Mar. 28.

REGULAR FORCES. ARMY VETERINARY CORPS.

Lt.-Col. (Bt. Col.) F. Eassie, C.M.G., D.S.O., to be Col.

(Oc. 11, 1917). Maj. T. W. Rudd to be Lt. Col. (Oct. 11, 1917).

Temp Capt. C. O. A. Anderton relinquishes his commn. on acct. of ill-health, and is granted the hon. rank of Capt. (Mar. 29).

Temp. Lt. to be temp. Capt. :- J. Ker (Mar. 15).

TERRITORIAL FORCE, ARMY VETERINARY CORPS. April 2.

Capt. (actg. Maj.) W. K. Burron relinquishes the acting rank of Maj. on ceasing to be empld. as DA.D.V.S. (Feb. 6).

The following casualty is reported: ---

WOUNDED-Capt. W. Hay, A.V.C.

Major R. J. Stordy, D.S.O., A.V.C., Chief Vety. Officer to the British E. Africa Protectorate, has been wounded

War Office, March 26.
The King has been pleased to confer the following rewards for gallantry and distinguished service in the Field :-

THE MILITARY CROSS.

Lieut. G. R. Thatcher, R.G.A., Spec. Res. (See obituary.)

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the follow ing subscriptions for 1918:

A. Ellison, Capt. A.V.C. E. M. Jarvis, Capt. S.A.V.C., M.C. 10 0 0 Previously acknowledged 649 15 0

£660 16 0

Anatomical Nomenclature.

The Anatomical Society of Great Britain and Ireland. at a meeting on March 1st at King's College, London, received and unanimously adopted a report by its Committee on Nomenclature. It resolved, without a dissentient vote, that the following paragraph of the report should be circulated among the several corporations and other bodies interested in the progress of medical educaion: "The Committee, after consideration of the matter, unanimously reports that it sees no reason for departing from the use of the old nomenclature as the recognised medium of description for employment in anatomical textbooks and departments, or by medical men in general; on the other hand, it thinks that there are very good reasons to be urged against the adoption of any other nomenclature for this purpose."—Brit: Med : Jour.

Personal.

At the meeting of the Council of the British Dairy Farmers' Association, held Wednesday, 6th February, at 28 Russell Square, London, W.C., S. Palgrave Page, Esq., J.P., in the Chair, the Report of the Finance and General Purposes Committee was read, and it was suggested that: Capt. Sidney Villar, Consul ing Veterinary Sur-geon, be made a Life Member. This was agreed to and the Report adopted.

OBITUARY.

ALEXANDER HAMILTON, M.R.C.V.S., St. Kilda, Dunedin New Zealand. Graduated, Edin: Oct., 1895 Mr. Hamilton died January 11th, 1918.

D. H. RAIT, M.R.C.V.S., Palmerston North, N. Zealand. Lond: July, 1899.

Died 26th November, 1917.

THATCHER .- Died of wounds in France, on 1st April, 1918, Lieut. George Robin Thatcher, M.C., R.G.A., Special Reserve; member of the firm of Geo. Thatcher & Son, 32 Essex Street, Stsand, London, Solicitors to the Royal College of Veterinary Surgeons.

The late | ieut.-Col. H. M. Lenox-Conyngham,

Lt.-Col. H. M. LENOX-CONYNGHAM, F.R.C V.S., D.S.O. Lt.-Col. H. M. LENOX-CONYNGHAM, F.R.C.V.S., D.S.O., of the Army Veterinary Corps, died suddenly at Chester on March 15, aged 48, from cerebral hamorrhage. For some time he had suffered from the effects of strain during three years' strennous work at the front, and towards the middle of 1917 it became necessary for him to give up, first temporarily, and subsequently altogether, the position he held as Deputy Director of A.V. Service of the Army Veterinary Corps, died suddenly at Chester made a sweep with knife, when I found, not a testicle, made a sweep with knife, when I found, not a testicle, made a sweep with knife, when I found, not a testicle, on the result of the position and the property of the result of the Army Veterinary Corps, died suddenly at Chester made a sweep with knife, when I found, not a testicle, on the property of
with the 5th Army. He joined the A.V.C. in 1896, and served in the Somaliland Campaign, 1902-1904, with the late Gen. John E Gough, v.c., and was twice mentioned in dispatches. He also served in the Argentines, 1904-5, and in India for many years, where he acted at one time as remount officer in Calcutta. When the war began he was at the Curragh with the 2nd Cavalry Brigade under Gen. Sir Hubert Gough, and went to the Drigate inder Gen. In Hubert Golden, and weat to the front as A.D.V.S. with the 6th Division in Sept., 1914. During the war he held various appointments, and was twice mentioned in dispatches by Lord French, being selected as D.D.V.S. with the 5th Army, under Sir Hubert Gough, in 1916, with temporary colonel's rank. In this capacity he served all through the fighting on the Somme and Ancre, and for his services was mentioned in dispatches by Sir Douglas Haig and was awarded the D.S.O. and hon. rank of brevet lieutenantcolonel. He was invalided in May, 1917, and later was able to return to comparatively light administrative duty at depots in the South of England, but he died almost immediately on his appointment as A.D.V.S.,

Western Command.

Lt.-Col. H. M. Lenox-Conyngham was the youngest of seven sons of the late Col. Sir W. F. Lenox-Conyngham, K.C.B., and Lady Lenox-Conyngham, of Spring Hill, Co. Derry. He leaves a widow and a son and

daughter.

CASTRATION-A NOVEL DEFENCE.

The time of year is again approaching when castration will be in full swing. The subject is an old one, and not much that is new can be said about it, but I have no doubt before the season is finished there will be some question raised in connection with it. The different methods of operating—whether by tortion, écraseur, methors of operating—whether by tortion, ecrascu, ligature, caustic clams, emasculator, may be gone into, and also the different forms the animal should be in when under operation may be eulogised upon—as to whether he should be done standing or cast, chloroformed, or the testicles extracted whilst in full con-

The narrative which I am about to relate may not be without interest, more especially from a medico-legal aspect, and there is also a certain warning note about it

aspect, and there is also a certain warning note about it which may be useful to our younger members.

I have just emerged from a County Court case the vanquished, and I intend to give full details of the affair from beginning to end; whilst I should like an opinion, or opinions, not only from you, Mr. Editor, but from any other members of the profession who care to take

part in the subject. In May, 1916, I was asked to castrate a yearling cart colt belonging to a gentleman, the farm being some distance from the private residence, where I have castrated a good many hackney horses for him, always successa good many hackney horses for him, always successfully. It was about 10 o'clock when I arrived, the subject being a well-proportioned active colt of good size. Had a look below and saw both testicles hanging in scrotum. Chloroformed him standing, and he went down nicely; had near hind leg pulled well out of the way and proceeded, my instruments, etc., by this time at my back taken close by man I had with me. Made "bold incision" into scrotum over testicle below, and with écraseur removed a healthy testicle. I then grasped other testicle (which I thought to be a testicle) and made a sweep with knife, when I found, not a testicle, but which, after a hurried examination, was a true demoid cyst or tumour, even to a bit of tooth. I dissected

egg—and there was no sign of anything further in the scrotum. The colt was allowed to rise, and the cyst was left on the grass. I made the remark, "I hope he will be all right," as it is difficult in such cases to know if we are right or not. I was very busy at the time (have been doing three men's work since beginning of war), so turned on my car and disappeared from the place, giving no more thought to the case as I had a lot in front of me.

Some time later, it appears (I knew nothing of this until Court day), the colt showed sexual inclination, and still later-about Christmas time-I got the information that there was a swelling on side of scrotum where I removed the dermoid cyst; but I said we would leave the animal to the spring, when I could again put him down and see what I could do.

Accordingly last spring (1917) I visited the farm and again chloroformed the colt. The swelling seemed considerable—much larger than an ordinary testicle. I made an incision right across and there appeared a large fleshy-like growth-after the style of a carcinoma-and firmly adherent all round to the skin. I dissected it from the skin and high up, gave the top (or bottom, if colt standing) of the tumour into a man's hand to hold tumour well up and as far out of scrotum as possible, and applied chain of écraseur; the chain, however, unfortunately snapped, and I applied an antiseptic ligature, giving one end of ligature to a man at other side of colt to pull tight, whilst I pulled the other end. (These two men afterwards appear in Court).

Two days afterwards I called, and as ligature loosened I again adjusted it, and in a few days the mass came away; the colt made an uninterrupted recovery and is away, the cold made an uninterlupted recovery and is all right to-day, and worth up to £70. So much for the operations. I do not claim to be anything out of the way as an operator—I do my best, and am only mortal. The bill for first operation (£1 1s.) was paid in 1916.

The bill for the second—under £2, and it included three bottles of antiseptic-was rendered at Midsummer last, again at end of September, and again at Christmas. Although not paid it was not disputed. After Christmas I wrote a note to the owner of the colt (as I was returning a receipt for a bill he had paid, incurred at his private residence) pointing out that his farm bill for operation on colt was still unpaid. To my horror, I had an answer much to the effect that the operation ought to have been completed in the first instance, and disputed payment of second bill. I pointed out that a human surgeon often operated three or four times on a human breast; but it was of no avail. He was not going to pay the bill. I felt at first rather broken about it, but that gave way to indignation. To think that I first operation. And here it was of the fact that complete the present significance when the transmission of the was not going all in a letter disappearing. Now as to the fact that complete the present significance when the present significance when the present significance was supported in the distribution of the was not other intent than to clear than a present significance when the present significance was supported in the first instance, and distributed and the present significance was supported in the first instance, and distributed as the present significance when the present significance in the first instance, and distributed as the present significance in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the first instance, and distributed as the present significance was supported in the present significance was supported in the present significance was supported i would journey about three miles out with motor spirit at nearly 4/- a gallon, chloroform dear, man to help (my own right hand man is in the army) operate, visit again, supply antiseptics, etc., was too horrible to contemplate; so I gave him one week to think about it—otherwise proceedings would be taken. It was not paid; and my client was served with a summons, and I had notice that it was to be defended. The Court was held last Wednesday.

The greatest bombshell of all was about to drop Before the case I could not for the life of me see where there was a defence. A local solicitor of repute—my own solicitor—appeared for me, whilst another local firm represented the defendant, backed up by a London barrister. It was under his cross-examination that the greatest revelation of my life appeared. The defence was-putting it shortly-that there never was a tumour, and that in the first instance there was an ordinary testicle which I failed to remove; giving as their reason that the animal showed sexual desire after my first operation. (This, of course, I admit wants clearing up, and, later, I have an explanation—which might be right and, later, I have an explanation—which might be right same time tumour was again growing, and enveloped or wrong). I never saw the tumour after second ligatesticle, and that on my second operation I removed the

ture, but it was given in evidence that what dropped off was a testicle. (The mass, after the ligature had been on for a week, would be in such a state that it would even take a professional man to make much of it). very two men (I believe) who held the tumour and ligature for second operation swore solemnly in the witness box that the mass which dropped off was a testicle (it would weigh 2 or 3 lb. when first ligatured). After the revelation of the defence I am afraid I was not a good witness, and did no good to the case simply because I was dazed.

Mr. Charles Roberts, the eminent veterinary surgeon, of Tunbridge Wells—the worthy son of a worthy father gave a very lucid exposition in the box of his opinion of the case. Another important professional witness failed me and did not turn up; but I am of opinion if all the Professors of the Royal College came to assist the result would have been the same. All the farm hands of the defendant swore that what came away was a testicle, even to the two men who held the tumour and ligature. If it was an ordinary testicle, why did I

require two to assist?

Another point that was made much of was that at the time I removed the first tumour I never mentioned the fact to any person at the farm, although the defendant's coachman says I told him on my return, passing the owner's private residence. And here I would observe and warn others to be explicit over such things. I remarked when I exposed first tumour that it was not a testicle but a tumour in the hearing of all, as I thought, but when the colt got up I am afraid I did not go into it again, being in a hurry. My man who held my instruments heard it, and saw tumour, as I have seen him since court case—he is not with me now. I would have had him in court, but it never dawned on me that the fact of tumours was in dispute. This man would have made all the difference to the case.

In court I was asked if I examined scrotum of colt before operation, as if a veterinary surgeon would throw a colt before either looking (some colts won't allow your hands on scrotum) or feeling if testicles are down. It is

beside the question. A lot was made of it.

Another point that was raised was why I destroyed a certain letter from defendant. The fact is, when we began to write I had no idea of a court case, and the letter must have gone into the waste paper basket, but with no other intent than to clear my desk. There were six letters, I think, and by mere chance; two happened to be kept—but only by chance, so that there was nothing at

Now as to the fact that colt showed sexual desire after first operation. And here it is as well to keep in mind that a testicle was found after mass dropped off after ligature—I did not see testicle, as I was not there when this happened, but let us assume that a testicle there—at any rate defendant's farm hands say so. all know that it often happens that a yearling colt has one testicle in scrotum and another not come down, i.e., in inguinal canal or abdomen, and not seen. My advice in such cases is to take the fully-developed testicle awayimmature testicle in abdomen then takes on the functions of two, develops, and in six months or a year it is found in scrotum and it can then be removed. In the first instance if fully-developed tes icle is not taken away the chances are the immature one will remain in abdomen and cause a lot of bother.

My assumption is, in regard to colt in question (and here we must keep an eye on freaks of nature), that when I first operated, in addition to tumour in scrotum there was an immature testicle also in canal or abdomen, and of course not seen. That when I removed the fully developed testicle the immature one began to flourish and grow, and came down later on into scrotum. At the lot-testicle and tumour-if anyone can elucidate this matter further I should be pleased. The only thing I saw, however, was the tumour, and after thirty years at the game I don't think anyone will dispute I would easily recognise a testicle from a tumour!

recognise a testicle from a tumour!

The judge found that in the first instance there was no tumour, but a testicle, which I did not remove. Just imagine a veterinary surgeon removing one testicle—opening the scrotum for the second and leaving a testicle fully developed inside! The judge did not give any reason or reasons why I left it in scrotum, whether it was from pure "cussedness" or just to have a game. Of course, as professional men the mere thought of doing such a thing is rubbish and not to be entertained for a such a thing is rubbish, and not to be entertained for a moment. I was negligent, that was the sum total. What humbug!

I have been operating on all sorts of animals for just on thirty years, I have never lost a colt, and have had very few eventualities. Once when I was operating, the intestines came into view—the colt was sleeping—I washed them with a weak carbolic solution, returned them, sewed up scrotum, and colt never looked behind him. There were two or three other minor things happened not worth mentioning, but I never lost a colt. Yet, after thirty years I am told I don't know the difference betwixt a testicle and a tumour; or worse, that I am

lying and negligent!

What struck me on court day as very odd was the attention given to the evidence of some farm hands, whilst professional evidence was brushed aside; and in consideration of the great talk and advance of education it seems remarkable—a certain witness, asked if he ever studied anatomy, had never heard of the word; yet you could see his evidence was swallowed whole.

It so happens that the above event will make no more difference to my practice than a pin prick, but what would be the consequences to a beginner —It might end his career in a particular district.

Now I come to the most serious part of the story.

You would have thought it would be impossible for the defendant to get a veterinary surgeon to help him in such a case; but he did. My neighbour did not go into the witness box, but he sat all the time beside the the witness box, but he sat all the time beside the barrister, coaching and otherwise doing his best to knock down a professional brother, damaging his reputation, and preventing the payment of a legitimate fee; although a week or two before the trial he expressed the opinion that the defendant had a weak case. Would one doctor go against another in the recovery of a debt? I trow not. Visunita fortior! What an anomaly. Is such conduct disgraceful in a professional sense? I should like your opinion on this, Mr. Editor, as well as that of any other person or persons who cares to give it: and if it is. I

opinion on this, Mr. Editor, as well as that of any other person or persons who cares to give it; and if it is, I will proceed. Differences of opinion there will be; but in the recovery of a professional debt, never.

Now I am at the parting of the ways, and it is a question in my mind if ever again I shall put a knife into a colt. I almost think that if a purchaser comes along for my rollicking practice—it includes the Prime Minister of England, and the next Lord Mayor of London, both of whom have residences near Reignets—I London, both of whom have residences near Reigate-I

would eschew the veterinary profession for ever.
In conclusion, what I have related, (with the excep-In conclusion, what I have related, (with the caception of assumptions, which may be correct or not; since medicine is an inexact science.) is the truth, the whole truth, and nothing but the truth, —Yours, etc.

The Gables, Chas. A. SQUAIR.

Reigate, 23rd March.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anth	rax	and-1	Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Swine Fever.	
	Period. T. BRITAIN. Week ended March 30			Out- breaks (a)	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN. Wee	k ende	d Marcl	n 30	3	3			1	1	97	179	7	15	6
Corresponding week in	{	1917 1916 1915		13 14 7	13 18 7			1	1 2	64 48	131 115	12 1 4	45 105 68	16 316 286
Total for 13 week	s, 1918		•••	86	99			10	30	1862	3614	201	195	76
Corresponding period in	1	1917 1916 1915	 	180 168 208	211 201 228	1	24	8 19 7	13 58 11	1021 1001	2159 2474	322 149 134	552 1078 947	196 3376 3968

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive irmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—Hertford 1. a) Confirmed. (b) Reported by Local Authorities. Board of Agriculture and Fisheries, April 2, 1918 Excluding outbreaks in army horses.

IRELAND. Week ended	Mar. 23			 			Outbreaks 3	2	1	2
Corresponding Week in	$ \begin{cases} 1917 & \dots \\ 1916 & \dots \\ 1915 & \dots \end{cases} $	 1	 1	 			2 4 1	9 4 6	6 4 6	34 63 79
Total for 12 weeks, 1918	(444	1	1	 		•••	44	133	5	24
Corresponding period in	$ \begin{cases} 1917 & \dots \\ 1916 & \dots \\ 1915 & \dots \end{cases} $	2 1 1	2 5 1	 	1 	 	13 22 11	154 165 158	55 53 59	344 264 374

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, March 25, 1918.

The figures for the Current Year are approximate only.

* As diseased or Exposed to Infection Note. The figures for the Current Year are approximate only.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1553

APRIL 13, 1918.

VOL. XXX.

THE MEETING OF COUNCIL.

The report which we publish to-day is long, and contains many items of varying importance, but

none which can be called unimportant.

After the correspondence, which includes the appointment of Sir John M'Fadyean and Mr. Mulvey to represent the College on the Council of the Veterinary Benevolent Fund, came the ever troublous Finance. Mr. Mulvey, our most conservative of Treasurers, makes it indubitably clear that the finances of the College now rest on the voluntary subscriptions of the members, and that the sum required annually is £1200. To the end of March, this year's receipts are £640 18s. There are still many members who refrain from adding their quota—some of them "because they are not the reports. The remaining business was the election of Examiners for the Fellowship—old regulafetched."

The report of the Examination Committee includes the names of the gentlemen elected as Examiners for the Fellowship Degree under the New Regulations (see p. 418). It brought up also a needless and wholly unprofitable discussion on a concession granted to a man who is a prisoner of war at Ruhleben. The case is obviously one which required to be dealt with promptly. Obviously also, since the course taken is one which has been accepted by the Conjoint Board R.C.S., and is to and Biology for Class A.

the question in a business-like way which will commend itself to the majority of the profession, but one perverse member wasted the time and tried the temper of the Council by his unreasonable judgment and known integrity, but we understand

sense of the Council prevailed.

Register of two members' names has to be carried over for lack of a quorum. This is the third time in succession, and the ninth of the fifteen held since enced practitioner. It is simply incredible that any June. 1914, which has defaulted. The President man having even a small experience in castration expresses his regret, and says "I am very sorry could mistake a normal testicle for a tumour, as indeed that we are not a quorum . . . I have tried writing letters to get a quorum, and done everything I can." It is clear that the blame does not professional witnesses saw the organs which he rerest with him.

the matter, but the War Office people are thorough- or others of similar limited knowledge and intellily imbued with that very human conceit—that gence; and this case is an unusually keen demonthere is no work in the world so important as their stration of the lesson.

own, and they have persistently repudiated our claim for students.

The question of oils and fats for veterinary use comes up at p. 421. The attention of practitioners is called to the necessary procedure—the last paragraph on that page.

The question of pay of Territorial officers is also dealt with—whether satisfactorily or not is for them to say. There is a further appeal for more

officers for active service.

On the report of Honours and Prizes Committee further criticism was offered-based, as it proved, on incorrect premisses. Fortunately in this case it caused little delay. The question of Veterinary Staff salaries (D.A.T.I.) was given further support; and this, with Publication and Library, concludes tions: and an authority to sign a memorial applying for a Civil List Pension for the widow of the late Prof. A. E. Mettam.

There are two notices of motion for alteration of Bye-laws, both apparently desirable. They will be suspended for the usual three months—for approval

or otherwise.

THE REIGATE "MISCARRIAGE."

The flank attack on Mr. Squair, as stated in his letter which we printed last week, is evidence that be carried out with the assistance of the Board of Education, there is ample security for a sufficient examination in Chemistry, Elementary Physics titioners would have been prepared for so cowardly a defence -- especially when the amount in question The Committee—and the Council—dealt with and the antecedent relations of the parties are taken into account.

We are able to print only the remarks of Mr. John Holland, of Athy, a practitioner of sound criticism. Incidentally it has filled one of our pages that Mr. Squair has received many sympathetic which could have been better employed. The good letters on the subject. There appears to be some letters on the subject. There appears to be some feeling that the matter should not be allowed to The Registration Committee report has nothing rest. If that opinion is supported, one naturally of outstanding importance. The restoration to the asks, Where is the National V.M.A.? for the reputation of the whole profession is libelled by this attack on the rectitude of a well known and experisuggested by the defence in this case. The weak points in Mr. Squair's case are that none of the moved from the colt; and secondly, that he omitted The War Emergency Committee report is long, to lay open the tumour at the subsequent operatedious, and so far as result unsatisfactory. Our tion. It is unwise at any time to leave such remPresident and Secretary have worked steadily in nants to be investigated at leisure by farm hands, MILK FEVER APART FROM PARTURITION.

The two following cases, which occurred almost simultaneously, have been recorded by E. Bordereau.

On February 13, 1913, he was called to a cow eight or nine years old, an excellent milker, seven months pregnant. Nothing abnormal had been observed the previous evening; but on the morning of the 13th the cow was found down, indifferent to her surroundings, stupefied, and with the head turned upon the chest. A slight slavering was observed upon the lips. The symptoms were clearly those of milk fever; but the long time that had elapsed since the last calving lead Bordereau to regard the case as one of cerebral tumour. The cow was slaughtered; but post-mortem examination revealed no lesion in the brain. The flesh, which

was of excellent quality, was utilised for food. Four days later, on February 17, a similar case occurred in a cow about the same age, also a good milker, and which had calved seven weeks before. Nothing had been abnormal the evening before; but in the morning the cow was found showing the same symptoms as those seen in the first case. The head was folded over the chest, the animal was indifferent to her surroundings, defecation was

absent, and the temperature was 97.3° F

Bordereau at once applied air-insufflation of the udder, which was commenced at 10 a.m. At 4 p.m. the cow rose without assistance, manifestly improved. A sinapism was then applied to the dorsolumbar region, and 20 grammes of potassium iodide was injected into the udder. The temperature had risen to 100.4° F. Defecation had not taken place, so clysters and continuance of the air-insufflation were ordered. The next day the improvement continued. The cow drank, but refused to eat; and the temperature was normal. The clysters brought away some faces. Another 20 grammes of potassium iodide was injected; and the air-insufflations were continued part of the day. On the third day the cow drank little, and refused to eat. The eyes looked well; but defecation only took place from Caffeine subcutaneously and coffee the clysters. by the mouth were given. On the fourth day the improvement was accentuated, and coffee and a litre of oil were given. On the fifth day the cow ate well, defecation was normal, rumination was regular, and, though lactation was not yet re-established, the animal appeared out of danger.

Bordereau has no doubt that, had he applied the air-sufflation treatment to the first cow, she would have recovered as did the second.—(Revista de Higiene y Sanidad Veterinaria).

INTESTINAL LESIONS ARISING FROM AN OLD-STANDING OVARITIS.

Janin, Edmon, and Postel recorded this peculiar case in La Revue Vétérinaire Militaire for 1912. The subject was a nine-year old mare which, for a period of a month, showed some very severe inter-mittent attacks of abdominal pain. These attacks mittent attacks of abdominal pain. These attacks were accompanied by signs of intestinal obstruction. After a momentary improvement violent colic set in, and the mare rapidly succumbed.

Post-mortem examination revealed a cyst six centimentres in diameter, englobed in fibrous tissue

interior of this cyst contained a yellow elastic substance resembling fibrin. The uterus, the broad ligament, and the ovary were submerged in a vast production of fibrous tissue which soldered them to the small colon. The ovary was the size of a fist and was completely sclerosed; upon section, it presented cysts containing a transparent liquid of a citron colour. The small colon was dilated, congested, and ulcerated; and was fixed to the anterior border of the right ilium by a firm adhesion the breadth of the hand, which was of old standing. Three intestinal coils were completely soldered together by a resistent fibrous tissue, which obstructed the lumen of the intestine at some points. All these lesions, which explained the symptoms observed, appeared to have their starting-point from an old inflammation of the right ovary.—(Revista de Higiene y Sanidad Veterinaria.)

TANNIN AS A SUBSTITUTE FOR TINCTURE OF IODINE IN SURGERY.

Vanderkake states that a 5 per cent. aqueous solution of tannin is one of the agents in the treatment of wounds, as it causes destruction of bacteria, arrest of suppuration, activity of granulation, and rapid proliferation of epithelium. A 10 per cent. solution in alcohol possesses the same properties, and specifically kills streptococci in wounds. It causes neither irritation nor eczematous lesions. The preparation is applied simply with a brush. In operations, an alcoholic solution of methylene blue with tannin may be used with advantage.-(La Clinica Veterinaria).

Royal College of Veterinary Surgeons.

A Quarterly Meeting of the Council was held at 10 Red Lion Square, W.C. 1, on Friday, April 5th.

Mr. F. W. Garnett, the President, was in the Chair, and the following members were present:—Messrs. G. A. Banham, W. F. Barrett; Dr. O. Charnock Bradley; Messrs. J. Clarkson, J. C. Coleman, Alex. Lawson, J.P., J. McKinna; Sir J. M'Fadyean; Mr. W. J. Mulvey, J.P.; Prof. E. S. Shave; Mr. S. H. Slocock; Sir S. Stockman; Maj.-Gen. Henry Thomson.

Minutes. The Chairman: The minutes have been published. Is it your pleasure I should sign them!—Agreed.

The Secretary: I have received letters and telegrams of apology for absence from this meeting from Maj. Abson, Maj. Brittlebank; Messrs Burt, Carter, Dunstan; Capt. A. Gofton; Mr. Howard; Col. Mason; Dr. McCall; Messrs. Packman, Price, Trigger, Wharam, and Wilson.

Obituary. I have to report that since the previous quarterly meeting I have received announcements of the deaths of the following members and others.—The

Secretary read the list.

CORRESPONDENCE

Letters of thanks were received from Mrs. Blakeway and Mrs. Mettam for the letters of condolence addressed

to them by the Council.

The Secretary: I have a letter from Maj.-Gen. Sir R. Pringle, of the 24th January: "Dear Sir,—Having relinquished the appointment of D.G.A.V.S., I beg that you will kindly lay this my request to retire from the Council of the R.C.V.S. before the President, and at the and united to the right horn of the uterus. The same time convey to him and the members my gratitude

to them for the great courtesy they have always ex-

tended to me during my membership.

There is a letter from the Hon. Secretary of the Victoria Benevolent Fund, asking for the Council to elect two representatives on the Council of the Victoria Benevolent Fund.

The CHAIRMAN: I may say with regard to General Pringle's resignation, he had written to me some time since, that owing to the state of his health he could not continue. I got it delayed as long as I could, so that we might have the advantage of his presence here; I think there is nothing to do but to accept his resig-

Mr. McKinna: How many are nominated on this coming election?

The SECRETARY: There are 11 nominations for 10

places.—Including Sir Robert Pringle?

The CHAIRMAN: I think you will agree with me that we should write accepting Gen. Pringle's resignation with regret.—The motion was carried.

The CHAIRMAN: They want two representatives from this College on Council of the Victoria Benevolent Fund. I should like to propose that Sir John M'Fadyean and Mr. Mulvey represent us on that Council. They are both in London and both take an interest in the Fund.

Mr. BARRETT: I shall be pleased to move that, if you

want a motion.

Dr. Bradley: I will second that.—The motion was carried.

FINANCE COMMITTEE.

Mr. Lawson read the following report of the Finance Committee:

The minutes of the previous meeting having been printed and circulated were taken as read and confirmed.

The Treasurer submitted his financial statement for the quarter, showing a balance in hand of £291 7s. 11d.

and liabilities amounting to £169 9s. 9d.

It was resolved: That the financial statement be approved and that the Treasurer be ordered to pay the liabilities shown, together with cheques for monthly salaries, printing of Register, Fellowship Examiners'

fees, gas, electric light.

Voluntary Subscriptions. The Secretary reported that the amount of voluntary subscriptions received

during the first quarter of the year was £674 18s.

Insurances. The question of the advisability of increasing the amount of fire insurances on buildings and fittings was considered, and it was resolved: That the

matter be deferred for the present.

Appointment of Clerk. The Secretary reported that his present clerk, Mr. G. W. Pope, would probably be called up for military service by the end of the month.

It was resolved: That the question of filling the vacancy be left in the hands of the Treasurer and

Mr. Lawson: I beg to move that the minutes of the Finance Committee be received.

Mr. McKinna: And adopted. I beg to second that.

The CHAIRMAN: It is open for discussion.

Mr. BARRETT: May I ask one question? What is the general effect now of the voluntary subscriptions that are being sent to the College. Are we raying our way or is there a loss?

The CHAIRMAN: A loss.

Mr. BARRETT: If so, to what extent are the Treasury

finding it for us?

Mr. MULVEY: Gentlemen, you have all received a financial statement. There is one slight correction that must be made in that, that is in the item for law charges. Mr. Thatcher has had an opportunity of going over the account, which he tells us was sent in by his clerk and that he had not an opportunity of supervising it. There is a reduction of £9 6s., so that the law charges now

only come to £31 18s. instead of £41 2s. 1d. That leaves a balance in hand of £123 18s. 2d., and against that we have to meet during the ensuing quarter monthly salaries, Fellowship Examiners' fees, printing the Register, gas, electric light, and sundry expenses, which will come to rather more than £123 18s. 2d. We cannot look forward with any amount of pleasure to what is before us. We have now come to this fact that our only source of income, which was produced from the examination of students, is absolutely lost. We have no income, and we have nothing to look forward to in the future. Students are now so few in number that the examinations will, I am afraid, cost more than we shall receive.

I am very thankful to say that the profession has come forward and subscribed during this first quarter of the year £640 18s., but you must remember, to carry on the work of this College we want nearly £1200 a year. I want to emphasise this fact, and I want it to go forward that, although the profession have done so well, yet they must do better; we must have more subscriptions if we are to carry on at all. As I said just now, that is the only source of income that we have to look forward to. All I can say is this—that we have reduced our expenditure to the very lowest factor, we cannot bring it down much lower, if any, so that I do hope the members of the profession who have not subscribed

will come forward and help us.

Mr. LAWSON: I move that it be adopted. The CHAIRMAN: If there is no further discussion I put it to you that the Finance Committee's report be adopted.- The motion was carried.

EXAMINATION COMMITTEE.

Mr. Mulvey read the following report of the Examination Committee and moved its adoption :-

The minutes of the previous meeting, having been printed and circulated, were taken as read and confirmed.

A letter (26/3/1918) was received Correspondence. from Mr. G. Hogg, applying for a modification of the requirements for the preliminary educational certificate. It was resolved: That the application be not acceded

A letter 30/3/1918) was received from Mr. A. O. Blackhurst, enquiring if the exemption granted under Bye-law 62a to holders of a Diploma in Agriculture awarded by a British University would also include exemption from the preliminary educational examination.

It was resolved: That the Secretary be instructed to

answer in the affirmative.

An application (16/2/18) from Mr. W. Robertson, a graduate of the Bombay Veterinary College for registration as a M.R.C.V.S

It was resolved: That the application be not acceded

Educational Certificates. Educational certificates No. 1665, and Nos. 1696 to 1703 were submitted and Educational certificates

It was resolved: That the educational certificate of

A. E. Cook (No. 1704) be accepted,

That the educational certifitate of Mr. Armstrong (No. 1705) be accepted pro tunto, and that he be informed that a certificate in French or any other approved modern language granted by a recognised examining body will be accepted in completion of the certificate now submitted.

Prisoners of War: Educational facilities. An application (11/12/1917) was received from Mr. W. W. Gordon, a prisoner of war at Ruhleben, for recognition of his course of study at the Camp school, and for arrangements to be made for his examination in the subjects of the First Professional examination.

It was resolved: That, subject to the production of

a recognised preliminary educational certificate and also

a recognised preliminary educational certificate and also of satisfactory certificates of study, arrangements be made, with the assitance of the Board of Education, for the examination of Mr. W. W. Gordon in the subjects of Chemistry and Elementary Physics and Biology. That in the event of his passing this test, Mr. Gordon be considered eligible for admission to the Second Year's Course at one of the affiliated schools, after his release, on the understanding that he will be required to present the whole subject of Anatomy at the Class B examination.

17ish, Gaelic and Welsh. Dr. Bradley moved to recommend: That Resolution 9 (vi) (iv) of the Minutes of Council, 5th October, 1917, be rescinded.—The motion

of Council, 5th October, 1917, be rescinded.—The motion on being put to the meeting was negatived.

Fellowship Examination (New Regulations). It was resolved to recommend: That the following be nominated as Examiners in the respective subjects for the Fellowship Degree (new Regulations):—

Anatomy: Prof. J. F. Craig, Mr. B. Gorton, Prof. J. Murphy

Anatomy: 1101.

Murphy.

Physiology: Dr. Lindsay Maj. Gen. Sir F. Smith, Mr. W. L. Symes.

Pathology: Prof. D. C. Matheson, Mr. J. T. Edwards,

W. L. Symes.

Pathology: Prof. D. C. Matheson, Mr. J. T. Edwards, Mr. W. G. Wragg.

Helminthology and Entomology: Prof. R. S. McDougall, Mr. A. W. Noël Pillers, Prof. G. H. Wooldridge.

Pharmacology and Tovicology: Mr. F. T. G. Hobday, Dr. G. D. Lander, Maj. J. Peddie.

Medicine: Messrs. W. H. Bloye, H. J. Dawes, J. Malcolm, J. Penberthy.

Tropical Medicine: Col. F. Raymond, Maj. A. G. Todd, Prof. S. H. Gaiger.

Surgery: Mr. Jno. A. W. Dollar, Prof. J. Macqueen, Prof. J. J. O'Connor, Mr. W. Woods.

Sanitary Science: Messrs. J. R. Jackson, A. M. Trotter, W. Woods.

Maj. Gen. Thomson: I beg to second that.— The

Maj Gen. Thomson: I beg to second that.— The motion was carried.

The CHAIRMAN: It is open for discussion. I think it explains itself very fully; it is practically a war report and nothing else. Will someone propose that it be

adopted?
Mr. McKinna: I beg to propose the adoption of the

Mr. BARRETT: I want to draw attention to that part which deals with Mr. Gordon. Although not a member of one of the Committees that sat yesterday, the whole which dears with Mr. Gordon. Although not a member of one of the Committees that sat yesterday, the whole question of drafting a special scheme for the admission of men who have fought for their country, and so forth, was very seriously considered, and it was manifest from the tone of the meeting that the majority of those present, indeed the whole of those present, were of opinion that some drafting of a revised regulation would have to be issued to meet these cases. Am I right in understanding that Mr. Gordon is a prisoner of war in Germany and has been confined by the Germans and interned at Ruhleben camp? Is it the suggestion of the Examination Committee that before this new scheme is devised and adopted Mr. Gordon is to be admitted to the first examination on part of the subjects, in contravention of the bye-law drafted to meet this case? If so I submit to the Committee with respect that that is an extraordinary proposition to place before the Council, in extraordinary proposition to place before the Council, in as much as to my mind it is quite clear that it is purely

maturely and wisely, but surely it is proposed to ride rough shod over a bye-law without any attempt to amend or alter it in accordance it may be with the express wish of members of the Examination Committee. I should

or after it in accordance it may be will the Express wish of members of the Examination Committee. I should like to hear from the Chairman under what circumstances this drastic extraordinary resolution received the assent of the Examination Committee, and I should be sorry as a member of this Council, desirous of upholding the training and dignity of the veterinary profession, to vote for a proposal of this kind unless some adequate explanation is forthcoming.

Mr. MULVEY: In reply to Mr. Barrett I may remind him that we are in a state of war, that we are only following on the lines of other educational bodies, that the Board of Education has asked for this, that they are granting facilities to prisoners of war to carry on their studies and they have offered to examine them. The Conjoint Board of the Royal College of Surgeons has acceded to that, and they are now having many of their men educated in the internment camps, and they have offered to carry out the examination. Mr. Barrett will remember that we have only placed the two subjects offered to carry out the examination. Mr. Barrett will remember that we have only placed the two subjects that we cousidered they are capable of carrying out there. The subject of anatomy of domesticated animals

that we cousidered they are capable of carrying out there. The subject of anatomy of domesticated animals is to be held over to the second course.

Mr. BARRETT? Permit me to say in reply to Mr. Mulvey, I accept his statement very fully and very completely, I do not want to oppose it, but may I suggest that this course ought to have been adopted. It must have been apparent to Mr. Mulvey, as Chairman of the Examination Committee, that this subject was coming before us and he must have been aware of the extreme gravity of the step from a professional point of view. Three months ago it was suggested here at our last meeting that bye-law 62 (a), which deals with examinations, was in a hopeless condition, and anyone who reads and studies that bye-law must come to that conclusion. I wrote to Mr. Mulvey, I drafted an amendment, not covering this point because it was not before me, but I suging this point because it was not before me, but I sugstudies that bye-law must come to that conclusion. I wrote to Mr. Mulvey, I drafted an amendment, not covering this point because it was not before me, but I suggested an alteration of the bye-law which would have made English of it, and made it clear and unambiguous. I am afraid Mr. Mulvey, perhaps he has beenivery busy, has not given this matter proper attention, but this course in my view should have been adopted. If we are going to admit students to examinations under these altered conditions, bye-law 62 (a) and perhaps other bye-laws ought to have been tackled three or four months ago, and should have been put in order so as to comply with the new regulations which were sought to be thrust upon us. That is all I have to say, and it may not be too late to do that now. It would be preferable to riding rough-shod over a bye-law, even at the instigation of His Majesty's Government.

Sir John McFadyean: I cannot help thinking Mr. Barrett has endeavoured to raise a storm in a tea cup. I think the language he has used in expressing the view that the circumstances are of extreme gravity is purely exaggeration, and I venture to say that the Committee have not recommended anything that is in contravention of the bye-laws. As far as I can gather we are not going to conduct this examination: we have merely expressed

have not recommended anything that is in contravention of the bye-laws. As far as I can gather we are not going to conduct this examination; we have merely expressed an opinion in advance that if this Mr. Gordon happens to pass the examination, which will be arranged by the Board of Education or some other body, we shall be prepared, when he is set free and returns to this contry, to give him the exemption which is already given to as much as to my mind it is quite clear that it is purely in contravention of the bye-law dealing with the subject. Ido not say that that bye-law should not be revised and amended, it may be drastically amended, but for the Examination Committee to suggest something which is in contravention of it off hand, without any consideration of the proposed scheme, I think is extraordinary. I should be sorry to oppose the Examination Committee in any resolutions at which they have arrived in respect of this subject if they have considered the subject

concession we have agreed to give him before October next. It is all pure exaggeration.

The CHAIRMAN: I should like to speak. Mr. BARRETT; Just one moment.

The CHAIRMAN: I want to explain the matter.

Mr. BARRETT: May I read one portion of the byelaw which shows that Sir John is wrong in his assump-

The CHAIRMAN: I am going to ask Mr. Barrett to sit down and let me speak.

Mr. Barrett: I am sorry. The Chairman: I asked you if I might speak.

Mr. BARRETT: After I rose.
The CHAIRMAN: This resolution comes up practically as one of emergency. It is a recommendation by the Examination Committee and it has my very strong approval, and I should have thought it would have had the approval of everybody round this table. I am sorry, at any rate, that there is one exception, a person who certainly cannot recognise that with the consent of this Council any action taken on this regulation will be perfectly regulated and quite in leading form. I am very sorry it has been raised because the procedure is only what every other educational body throughout England, and I believe the Colonies as a whole have done, and I think it is the least that we can do. Knowing that these men's studies will be carefully supervised, and protecting ourselves as we do in this resolution, I cannot see

that anyone should raise any objection to it.

Mr. BARRETT: With respect to you, I very much regret your remarks from the chair. I think it is a very great mistake that a gentleman, occupying a position which should be impartial, should, after a man has spoken honourably and properly, address those observa-tions respecting him to this meeting.

The CHAIRMAN: If there are no other observations to make I will put it that the Minutes of the Examination Committee be adopted.—The motion was carried.

REGISTRATION COMMITTEE.

The SECRETARY: The minutes of the previous meeting, having been printed and circulated, were taken as

read and confirmed.

Cases. (Burke). The Solicitor reported that the defendant's appeal against his conviction, with a fine of £10 and costs, had been dismissed. By consent of the parties stay of execution had been granted with liberty to the prosecutor to apply to issue execution in the case of the defendant holding himself out as a Veterinary Surgeon or practising as such.

(Gardner, W.). It was resolved to recommend: That the Registrar be instructed to restore the name of Mr. W. Gardner to the Register of Veterinary Surgeons. (Sewell). The Solictor reported that the appeal lodged with the Privy Council was still under con-

(Tomlinson, G. N.). Member, Court-Martial. The Solicitor reported that this member was in India, and it was possible that notice to attend had not yet reached him. It was resolved: That the consideration of the

case be deferred for six months.

A member charged with conduct disgraceful in a professional respect within the meaning of Section 6 of the Veterinary Surgeons Act, 1881, namely, drunkenness when in H.M. Service, was convicted of drunkenness by by a General Court Martial, and in consequence dismissed the service. The member appeared and was represented by Counsel. The Solicitor put in the official recoad of the Court Martial, from which it appeared that he was charged with (1) Drunkenness, (2) Conduct to the prejudice of good order and military discipline (discharging loaded firearm). He was found guilty on both charges and sentenced to be dismissed H.M. Service. Evidence was given in extenuation and Counsel Council are compelled to beg of the Ministry of National addressed the Committee to the same effect, and urged Service to reconsider their decision.

that the conduct complained of did not come within the meaning of the section. After withdrawal of the parties, it was resolved: That the Committee find the charges proved.

In the case of a member advertising it was resolved: That an undertaking which was submitted be accepted.

A complaint was received to the effect that an existing Practitioner was displaying the Diploma of Membership of a deceased member of the same name. It was resolved: That the case stand over for further

inquiry.

In the case of a member advertising, the Secretary was instructed to request the member to have the letters "M.R.C.V.S." omitted from the advertisement com-

plained of.

Applications for Restoration. An application was received from Mr. B. M. Gunn, for the restoration of his name to the Register, it having been removed by order of the Council on October 6th, 1816, under Section 6 of the Act. The application was accompanied by testimonials and supported by a petition signed by members of the College. It was resolved to recommend: That the Registrar be instructed to restore the name of Mr. Brendan M. Gunn to the Register of Veterinary Surgeons.

The CHAIRMAN: Gentlemen, I propose that these minutes be received, and I am very sorry indeed that we are not a quorum to take any action whatever on these particular ones that require either restoration or removal. We can only adopt the minutes to-day, and at some future time I hope we shall have a quorum to carry out the necessary work. I have tried writing letters to get a quorum, and done everything I can, but it is simply on account of impossibility and the work that members of the Council are having to do in their own practices that we are short to-day. If there is no discussion I will put the recolution. That the Begistra. discussion I will put the resolution: That the Registration Committee's report be received and adopted.

Mr. Mulvey: I beg to second that.—The motion was

carried.

WAR EMERGENCY COMMITTEE.

The Secretary: There are two reports of the War Emergency Committee.

At a meeting held on Wednesday Feb. 27th, there were present: Mr. F. W. Garnett, President, in the Chair; Dr. O. C. Bradley, Mr. J. C. Coleman, Sir John M'Fadyean, Mr. S. H. Slocock, Sir Stewart Stockman.

Minutes. The minutes of the previous meeting having been printed and approved by the Council, were

taken as read and confirmed.

Apologies for absence. A message of apology for absence was received from Mr. T. S. Price, and from Dr. Share-Jones.

Release and Exemption of Veterinary Students. The Secretary read the following letters addressed to the War Office and Ministry of National Service:-

R. 3 Stud. 91.

Sir,—I beg to inform you that your letter of the 17th December was laid before a meeting of Council held on the 4th instant. While grateful for the consideration given to the application made in my letter of the 13th October, 1917, for the release and exemption of veterinary students, the Council regret that a more favourable decision was not reached.

The exemptions referred to by the Ministry of National Service do not add a single student to the number now in attendance, and do not affect any of the second year

I am to point out that as early as October, 1915, the Council passed the following resolution, which was communicated to the War Office on 23rd October, 1915;—
"That in the opinion of this Council it is not expedient in the national interests that Veterinary Students should be enlisted at the present time."
In the letter transmitting this resolution it was pointed out that the Veterinery Students then under training constituted the only reserve available to supply future demands on the profession, and that it would be dis-

out that the Veterinery Students then under training constituted the only reserve available to supply future demands on the profession, and that it would be disastrous to interfere with their course of study.

This was again urged upon the War Office in my letter of the 17th January, 1916, in which the request was made that in view of the demands for qualified veterinary surgeons, both in the Army and for home service, the whole of the students then enrolled in the schools should be allowed to complete their studies.

Unfortunately the War Office did not accede to these applications, although the number of students involved was less than 300; but limited the exemption from military service to third and fourth year students.

Meanwhile repeated and urgent requests were received by my Council from time to time from the Army Veterinary Department for an increased number of officers for the Army Veterinary Corps, and the Council did all in its power to obtain the services of as many qualified men as possible. Circulars were issued to all members of the profession of military age in May, 1915, and again in February 1917. At the same time pressure was brought to bear on all public administrations employing veterinary officers to induce them to release as many men as could possibly be spared for the Army. As President of the College I made special visits to Dublin at each Final Examination held during the last three years, in order that I might prevail upon as many new graduates as possible from Ireland to join the A.V.C. Moreover, during the year 1917 the exemption certificates granted to all veterinary surgeons were reviewed at the suggestion of this Council, so as to ensure that every man who could be spared from civil prac-

tion certificates granted to all veterinary surgeons were reviewed at the suggestion of this Council, so as to ensure that every man who could be spared from civil practice should be made available for the Army.

It is believed that as a consequence of these efforts, as many as 1040 members of the College, out of an estimated maximum of 2460 in active practice in this country are now doing military duty. This represents 42% of the veterinary profession, a far higher proportion than has probably been reached in any other profession.

But it is obvious that the number of men remaining to carry on the veterinary work of the country is now far below the essential needs of agriculture, and that much important work must of necessity be neglected. Practic-

below the essential needs of agriculture, and that much important work must of necessity be neglected. Practically all the young graduates of the English and Scotch schools since the outbreak of war have been admitted to the A.V.C., and also a considerable number of those who have graduated from Dublin. Thus for more than three years there has been no supply of new men to make good the natural wastage in general practice due to deaths and retirements; the war wastage of the A.V.C. has increased the normal wastage of the profession, and all new members will be absorbed into the A.V.C. as they graduate.

all new members will be absorbed into the A.V.C. as they graduate.

But if the needs of the Army Veterinary Service are urgent, the needs of the agricultural community both now and in the period of reconstruction after the war are also extremely important. They are fully set forth in my letters of the 13th October and 26th November.

It is the opinion of my Council, therefore, that in the national interests it is absolutely necessary that arrangements should be made for the maintenance in the Veterinary Schools of a sufficient number of students to supply the needs both of the Army and of general practice. It is noted that an arrangement had been made whereby the supply of medical students is to be maintained at

by the supply of medical students is to be maintained at lars of the officer a level sufficient to ensure the annual accession of 1000 this department.

new practitioners to the Medical Register. In proportion to the respective numbers of the two professions, the number of veterinary graduates under a similar scheme should be 100, but it is recognised that this number could not possibly befurnished from the number of veterinary students at present enrolled. The exact number of officers required for the A.V.C. is not known to my Council, but it is submitted that provision should be made for the supply of at least 80 graduates per anum. Allowing for the fact that the students in the Dublin school are not affected by the Military Service Acts, the number of graduates stipulated for could only Acts, the number of graduates stipulated for could only be provided by the release of all students at present registered in the English and Scotch schools. The total number of students involved is about 190.

I am to express the earnest hope of the Council that this year.

this very urgent matter, as now more fully placed before you, will be reconsidered at an early date.

I am, Sir, your obedient servant,
FRANK W. GARNETT,
President, R.C.V.S.

The Secretary, Ministry of National Service, Westminster, S.W., 1.

Royal College of Veterinary Surgeons, 10 Red Lion Square, London, W.C. 1. 19/Releases/1045 (D.R. 2). 11th January, 1918.

Sir,—In further reference to my letter of the 26th November, I am instructed by the Council of the Royal College of Veterinary Surgeons to beg for a reconsideration of the appeal made for release of veterinary students who are now serving in the Army or Navy, and also for the exemption of students at present in the schools.

I desire to point out that as early as October, 1915, my Council passed the following resolution which was communicated to the War Office on 23rd October, 1916: (The rest of the letter is the same as that to the Ministry of National Service).

The following replies were received :-

Ministry of National Service,
Westminster, S.W. 1.
2nd February, 1918 R3/Stud/9/T.

R3/Stud/9/T.

Sir,—I have to acknowledge the letter signed by the President of your College of the 11th January, and to say that the observations contained in that letter have received full consideration. In view, however, of the urgency of the demands of the Army it has been found impossible to vary the decision on the question of exexemption and release from the Colours of veterinary students embodied in the letter from this Ministry of the 17th December, 1917. I am to remind you that if names and particulars of veterinary students at present serving, who fall within the classes to be recommended for release from the Army, are sent to this Ministry, their cases will be favourably considered.

I am. Sir. vour obedient servant.

I am, Sir, your obedient servant, (sgnd.) F. H. McLEOD. The Secretary, R.C.V.S., 10 Red Lion Square, W.C. 1.

War Office,
Park Buildings,
St. James's Park, S.W.

19/Rels./1045 (Mob. 5. a.).

Sir,—I am directed to inform you that the question of the release of veterinary students now serving in the Armywill be considered in conjunction with the Ministry of National Service immediately the necessary particulars of the officers and men concerned are received by

I am to add that the exemption from Military Service of veterinary students at present in the schools is a matter for consideration by the Ministry of National Service.

> I am, Sir, your obedient servant, (sgnd.) J. E. St. Leger, Lt. Col. For Director of Mobilisation.

The Secretary, R.C.V.S., 10 Red Lion Square, W.C. 1.

A letter in support of the Council's appeal was received from the Committee on the Production and Distribution of Milk of the Board of Agriculture, Food Production Dept.

> Board of Agriculture and Fisheries, (Food Production Department), 4 St. James's Square, S.W. 1. 21st February, 1918.

Dear Sir,-I am desired to say that your letter of December 14th was laid before this Committee at its last meeting, and it was decided, in view of the serious effect which the deficiency in the supply of veterinary surgeons appears likely to have on the milk supply, to support the application which you have made for the deposition of veterinary strategies. demobilsation and exemption of veterinary students.

The following resolutions are being forwarded to the War Office, the Ministry of National Service, the Admiralty, Sir Arthur Lee (Dir. Gen. Food Prod. Dept.), the Secretary for Scotland, the Secretary for Ireland,

and the Board of Agriculture.

1. That all veterinary students who have passed their first professional examination, now serving in nonveterinary functions with the Navy and Army, should be demobilised to continue their studies, on analogous conditions to those laid down for medical students' examinations.

2. That no veterinary student at present registered as in attendance at one of the five affiliated schools, who has completed his first year of study, should be called

up for service with the colours.

Yours faithfully, (sgnd.) M. MACKENZIE, Secretary.

The Secretary, R.C.V.S., 10 Red Lion Square, W.C. 1

It was resolved: That a further appeal for the release and exemption of all veterinary students be addressed to the War Office and the Ministry of National Service, and that an endeavour be made to secure the support of the Royal Agricultural Society of England

and of the Highland and Agricultural Society.

Oils and Fats. The Secretary reported the receipt of a letter from the Ministry of Food enquiring as to the quantities of oils and fats used in veterinary practice, and as to the possibility of using paraffin. He also reported that supplies of linseed oil and rape oil were

likely to be restricted.

It was resolved: That the Secretary be instructed to inform the Ministry of Food that supplies of linseed and rape oils are essential to veterinary practice, and that if 250 tons of linseed oil and 100 tons of rape oil, or failing rape, 100 tons of sesame oil, could be set aside per annum for the use of the veterinary profession, these quantities would probably be sufficient. That with regard to the use of paraffin, the information at the disposal of the Committee showed that paraffin could not be used, except in a very small number of cases, but the Council would be prepared to recommeed the profession to use paraffin instead of linseed wherever this could be done without detriment to the patient.

Territorial Force A.V.C. The Secretary read the

following letter from the War Office :-

9/Veterinary/965 (F. 2.) War Office, London, S.W. 1. 2nd Feb., 1918.

Sir,-With reference to your letters of the 9th July, 1917, and 10th January, 1918, I am commanded by the Army Council to acquaint you that in consequence of the decision of His Majesty's Government as notified in the Press of 30th January, 1918, not to grant officers of the Royal Army Medical Corps, Territorial Force, the emoluments paid to temporarily commissioned officers of Royal Army Medical Corps they regret that it will not be possible to agree to the proposal of your Council that officers of the Army Veterinary Corps, Territorial Force, should be paid at the same rate as temporarily commissioned officers of Army Veterinary Corps.

As regards paragraph 2 of your letter of 10th January,

1918, 1 am to say that the rule applied in the case of officers holding temporary commissions in the Army Veterinary Corps on proceeding to India or Mesopotamia follows that adopted for all arms of the service, i.e., they are given the Indian rate of pay applicable to British service officers serving in India in lieu of the emoluments drawn by them in Europe. For a Veterinary Captain this rate is Rupees 570 per mensem, which is more favourable than the emoluments drawn by a temporary Captain in France. I am, Sir, your obedient Servant,

(sgnd.) D. B. Cubitt.

The President, R.C.V.S., 10 Red Lion Square, W.C. 1.

Re-settlement of Officers A.V.C. in civil life. A letter was received from the Ministry of Labour, Employment Department, asking for information with regard to the prospects of the profession after the war, and whether any difficulties were anticipated as to the re-settlement of officers in the profession after the war, or the return of students to resume their studies.

The consideration of the matter was deferred till the

next meeting.

Then at the meeting of the 4th April, 1918.

The minutes of the previous meeting were read and

Correspondence. Letters dated 18th March and 3rd April, 1918, were received from the Committee on Work of National Importance, asking whether a member who had been referred to the Committee for work of national importance to be assigned to him would be rendering the most useful service from the national point of view by accepting a position as locum tenens in Norfolk, or whether greater use could be made of his services from that point of view in some other part of the country, and if so, where?

It was resolved, That the Secretary be instructed to reply that work in civil practice is in the opinion of this Committee work of National Importance, but that in this case the work would be most useful from a national point of view if it were work undertaken to relieve a

practitioner who would then join the A.V.C.

Release and Exemption of Students. It was resolved
That no further action in this matter be taken for the

Supply of Oils and Fats. The Secretary reported that he had received a communication from the Ministry of Food (Oils and Fats Branch) stating that veterinary surgeons requiring linseed oil should communicate with the chemists or other tradesmen usually supplying their requirements, asking them to apply for an application form for a permit to use or sell linseed oil to cover generally their prospective requirements for their veter-inary clients. This application should be made in the first instance, with full particulars, to the United King-dom Linseed Oil Consumers' Association, 1 Great Winchester Street, E.C. 2.

Resettlement of Officers, A.V.C., in Civil Llife. Questions submitted by the Ministry of Labour, Employment Department, with regard to the prospects of the profession after the war, and the possible relaxation of conditions of entry into the profession were considered, and it was resolved

That the matter be referred to the Examination Compiler of consideration and respect to the Coursel Andrews of the Andrews of the Coursel Andrews

That the matter be referred to the Examination Committee for consideration and report to the Council. And That in the meantime the Secretary be instructed to draw up a letter in reply to the specific questions asked, and to submit the same to the President for approval.

Supply of Veterinary Officers for the A.V.C. The President reported that a large number of Officers fit for Overseas service was still resulted for the A.V.C.

over-seas service was still required for the A.V.C.

It was resolved, That a circular letter be issued to all

members graduating since 1890 and in civil practice, appealing for volunteers under the age of 50 for commissions in the A.V.C.

The CHAIRMAN: I propose that the minutes of the War Emergency Committee of the 27th February and the 4th April be received.

Mr. Lawson: I will second that.—The motion was

The CHAIRMAN: It is open for discussion. If there is no discussion will someone move the adoption of them?

Maj.-Gen. Thomson: I move the adoption of the re-

port. Mr. McKinna: I will second that.—The motion was

HONOURS AND PRIZES COMMITTEE.

Mr. Banham read the following report and moved its adoption:

The minutes of the previous meeting, having been printed and circulated, were taken as read and confirmed.

Fitz Wygram Prize Regulations. An application was received from a student exempted from the First Year's examination under Bye-law 62a, for an amendment of the Regulations so as to provide for the allotting of a proportion of marks for the first examination to such extudents. students.

It was resolved that the Secretary be instructed to reply that under the terms of the Trust Deed no such

reply that under the terms of the trust Deed no such provision can be made.

Jubilee Memorial and Bursary Prize. The Secretary reported that there was an accumulated balance of £78 17s. 8d. in this fund. It was resolved that the trustees be authorised to purchase £100 Consols to be added to the capital of the fund.

Mr. Barrett: May I offer this observation on the report Mr. Banham has read. It is manifest, is it not, that unless the FitzWygram Trust Deed is varied no student who procures exemption under 62 (a) will be able to compete for these prizes My suggestion is that probably, if an application were made to the Charity Commissioners explaining the circumstances and advising that the Trust Deed be varied accordingly, they would entertain the proposal. Those applications as a rule cost nothing and sometimes meet very necessitous

cases.

The CHAIRMAN: It is raising a very difficult problem as to fairness all round, because there are no marks given to these students, and in the event of one carrying off the prize it is very difficult.

Mr. BARRETT: These questions are always arising in the country. Trust Deeds have to be varied according to changing aircumstances and that is a thing you would

the country. Trust Deeds have to be varied according to changing circumstances, and that is a thing you would expect to happen. The trust deed is not inviolate, because the Charity Commission have power to vary it.

Mr. THATCHER: It is not the Charity Commissioners

now, I fancy it is transferred to the Board of Education under the Act of 1900.

Mr. BARRETT: That is possible, but it was originally the Charity Commissioners.

The CHAIRMAN: Mr. Thatcher will consider the matter, and it can come up at a future meeting if that will meet your wishes.

will meet your wishes.

Mr. Barrett: Yes, I throw it out as a suggestion that would meet the case.

Sir John MFrayean: So far as my recollection of this question goes the Committee came to no conclusion as whether it was desirable that the request should be acceded to. It is true it was thought that, even if it were considered desirable to accede to it, there would probably be difficulties in the way, but the Committee has not yet decided, and I venture to say it is quite likely they will not decide at all that it is desirable to accede to this request. There is a great deal to be considered at any rate against acceding to it.

accede to this request. There is a great deal to be considered at any rate against acceding to it.

The Chairman: Yes. Of course it could only come up at a subsequent meeting. I will put to you the reception and adoption of the Honour and Prizes

Sir John M'Fadyean: I will second that. (The motion was carried.)

Special Committee on Veterinary Staff Salaries.

The Secretary: At a meeting held yesterday the minutes of the previous meeting, having been printed and circulated, were taken as read and confirmed.

Correspondence. A letter was received from the Hon. Secretary of the D.A.T.I. Veterinary Officers Association, together with a copy of letter addressed to the Secretary of the Department of Agriculture and Technical Instruction for Ireland.

It was resolved to recommend that the President be authorised to communicate with the Department in support of the claims put forward on behalf of the senior members of the staff.

The Charman: That is continuing our efforts on their behalf, as you instructed six months ago. Will someone propose the reception and adoption of those reports?

Mr. Lawson: I will move that.
Major-Gen. Thomson: I beg to second that. (The motion was carried).

Publication, Library, and Museum Committee. The Secretary: At a meeting held this morning, in the absence of the Chairman, Mr. W. J. Mulvey was voted to the Chair.

the absence of the Chairman, Mr. W. J. Mulvey was voted to the Chair.

The minutes of the previous meeting having been printed and circulated, were taken as read and confirmed. Presentations to Library. The Secretary reported that since the previous quarterly meeting the following presentations had been made to the Library:

Annual Reports: Civil Veterinary Dept., Madras, 1916-17; Northern Nigeria Dept. of Agriculture, 1916; Basutoland, Principal Veterinary Officer, 1915-16; Basutoland, Principal Veterinary Officer, 1915-16; Basutoland, Principal Veterinary Officer, 1917; Bombay Veterinary College, 12 years, 1903-1916; Imperial Bacteriologist, Muktesar, 1917.

U.S.A. Dept. of Agriculture, Bulletin: Disposal of City Garbage by feeding to Hogs (Ashbrook and Bebout), with Emulsions for protecting Camels against the attacks of Bloodsucking Flies (H. E. Cross). Addendum (War Emergency Formulary) to the British Pharmaceutical Codex, 1911. The Score Card System of Dairy Farm Inspection (W. Buckley). Register of Pharmaceutical Codex, 1918. Ontario Veterinary College, Calendar, 1917-18. Report of the Ontario Veterinary College, Calendar, 1917-18. Report of the Ontario Veterinary College, 1914-15, 1915-16, 1916-17. New York University: Announcement of N.Y. State Veterinary College, 1916-17, 1917-18. University of Pennsyliary College, 1916-17, 1917-18.

vania: Announcement of School of Veterinary Medicine, Vania: Announcement of School of Veterinary Medicine, 1917-18. Ohio State University: Bulletin of College of Veterinary Medicine, 1917-18. St. Joseph Veterinary College Announcement, 1917-18. George Washington University, Catalogue of College of Veterinary Medicine, 1917-18. The Indiana Veterinary College Catalogue, 1917-18. McKillip Vety. College, Chicago, Catalogue, 1917-18. Chicago, Veterinary College, Chicago, Catalogue, 1917-18. Chicago, Catalogue, 1917-18. Chicago, Catalogue, 1917-19. 1917-18. Chicago Veterinary College, Catalogue, 1917-18.

The Journal of the Board of Agriculture and Fisheries; Leaflets of the Board of Agriculture and Fisheries; The Journal of the D.A.T.I.; The Journal of Comparative Pathology and Therapeutics; Revue de Pathologie Comparée; The Journal of Physiology (per Maj.-Gen. Sir F. Smith); Rhodesia Agricultural Journal; New Zealand Journal of Agriculture; Journal of Department of Agriculture, Victoria, Melbourne; The Bloodstock Breeders'
Review; The Veterinary Review; The Veterinary Journal; The Veterinary Record (also bound copy); The
Veterinary News; The British Medical Journal (per Dr.
Bradley); The Educational Times

It was resolved: That a hearty vote of thanks be

accorded to the respective donors.

Museum. A specimen of a fractured elbow of the horse was received from Mr. W. H. Brown, and it was resolved: That the presentation be accepted with thanks.

Register, 1918. The Secretary was instructed to urge upon the printers that the Regigter, 1918, should be ready for publication with as little delay as possible. It was agreed that the price should be maintained at 3/6 per copy.

The CHAIRMAN: I do not think there is anything of importance arising on those minutes. Will someone propose the reception and adoption of them?

Dr. Bradley: I will.

Mr. COLEMAN: I will second that.—The motion was

carried.

The CHAIRMAN: Then the election of Examiners. I think we can take Class D. Veterinary Medicine; Class C. Pathology, Materia Medica and Veterinary Hygiene; Class B, Anatomy, Histology and Physiology, Stable Management, etc.; Class A, Chemistry and Physics, and Biology, altogether. There are just the required number of applications for the posts. Will someone move that the gentlemen in those classes be elected Examiners for the ensuing year?

Mr. Lawson: I beg to propose that.

Maj.-Gen. Thomson: I will second it.—The motion

was carried.

The CHAIRMAN: I will now ask you to ballot for the two Examiners in Veterinary Surgery. There are three names before you. Will you kindly write two names on names before you. Will you kindly write two names on a slip of paper and put them into the ballot box? Will Dr. Bradley and Mr. Clarkson please scrutinize? I will go on to the next item, "To appoint scrutineers."

The Secretary: J. B. Buxton, H. A. MacCormack, E. A. Prudames, D. A. E. Cabot, Bernard Gorton, J. T. Edwards, H. D. Jones and A. Duff Dunbar were elected

to act as scrutineers for the election of Councilmen lust

year.

Mr. Lawson: Many of those will be away.
The Secretary: Give power to the President to appoint scrutineers.

Mr. THATCHER: That is what is generally done. The SECRETARY: Appoint the gentlemen who served

before. The CHAIRMAN: Appoint the gentlemen who served last year with power to add to the number by myself.

Mr. Lawson: I propose that. Maj.-Gen. Thomson: I second that.

The CHAIRMAN: We ought to have 12, but it is almost

impossible to get them.

Mr. Lawson: Leave it in the hands of yourself and the Secretary to get as many as you can.

The CHAIRMAN: It has been proposed and seconded that the scrutineers who acted last year be re-elected with power to the President to add to their number.-The motion was carried.

The CHAIRMAN: The result of the voting is: Mr. Hickes 11, Maj. Mulvey 9, Mr. Gooch 2. I declare Mr. Hickes and Maj. Mulvey the Examiners in Veterinary Will you now write two names for Anatomy, Surgery. Class A?

The result of the election is: Capt. Mellon 10, Mr. Roberts 9, Mr. Patrick 5. I declare Capt. Mellon and Mr. Roberts duly elected Anatomy Examiners in Class A.

Then we have the election of Fellowship Examiners under the old regulations. There are only three nominations for them. Will someone move that they be elected?

Mr. MULVEY: I will move it.

Mr. COLEMAN: And I will second it.—The motion

was carried.

The CHAIRMAN: You have already adopted the Examination Committee's report for the new regulations. I have missed out No. 6. I now formally move: "That the President and Secretary be authorised on behalf of the Council to sign the Memorial applying for a Civil List Pension for the widow of Prof. A. E. Mettam." An application has been received from the Department of Agriculture and Technical Instruction for Ireland, with the petition, requesting our support of it, and I feel sure that all members wish to do so.

Mr. Mulvey: I will second that.—The motion was

carried.

NOTICE OF MOTION.

Sir Stewart Stockman: 1 would like to give notice of a proposed alteration of Bye-law 80. It refers to Candidates for the Examinerships. I propose it should be altered as follows:

"Each candidate for the office of Examiner shall, at least fourteen days before the election, intimate in writing to the Secretary his willingness to be appointed, or submit with his application a statement of his qualifications," the remainder of the bye-law to stand as at

I do not suppose it is any use saying what my reasons

for it are at present, until it comes up for discussion.
The Charman: No, not at all. Is there any other Notice of Motion?

Mr. Mulvey: I beg to give notice of alteration of Bye-law 62a.

Exemption (Paragraph 1).

A student who has obtained a degree in Arts, Science or Medicine, or a degree or diploma in Agriculture granted by a University situate within the United Kingdom or the diploma of Licentiate of one of the Royal Colleges of Surgeons or of one of the Royal Colleges of Physicians, and who in procuring such degree or diploma passed an examination in Chemistry and also in Biology, Zoology or Botany, shall be exempted from his A or first professional examination and the bye-laws and regulations in respect thereof, and shall be entitled in all respects to the rights and privileges which the passing of such examination ordinarily confers, provided always that such student so exempted shall be examined in the whole subject of Anatomy in the Class B examination."

Paragraph 2.

"A student possessing a degree or diploma of a like import or denomination to one of those enumerated in paragraph 1 hereof but granted by a University or ther licensing authority situate without the United Kingdom shall, if the Council declare its sufficiency for exemption. thereupon become entitled in all respects to such exemptions, rights and privileges as are defined in paragraph 1 of this bye-law.

In any other special circumstances arising in connection with the war, exemption under this bye-law may also be granted by the Council on the recommendation of the Examination Committee."

The CHAIRMAN: If there are no other matters to bring forward, gentlemen, that concludes the business and I thank you very much for your attendance.

Sir STEWART STOCKMAN: I beg to propose a vote of thanks to the President.

Major-Gen. Thomson I will second that with great pleasure.—The motion was carried.

The CHAIRMAN, Thenk was eastlemen.

The CHAIRMAN: Thank you, gentlemen.

Arbitration on seisure of carcase - Damages against a Corporation.

The following is reprinted from the newspaper reports Because the case is of unusual character: and secondly, on account of the importance of the veterinary evidence which, to say the least of it, is varied.

which, to say the least of it, is varied.

His Honour Judge Tobin, K.C., officiated as arbitrator at a Court held at Hereford Shire Hall on Thursday, March 14, in a case under the Public Health Act, in which Mr. Charles Frederick Goodwin, farmer, Clifford House, Swainshill, claimed compensation from the Hereford Corporation, the value of a heifer the carcase of which was seized by the City Health Authority, condemned and destroyed as unfit for human food. Counsel was engaged on both sides. Mr. S. R. C. Bosanquet, instructed by Mr. T. A. Matthews, appeared for the owner, and the claim was supported by the South Herefordshire Farmers' Union. The Corporation was represented by Mr. Graham Milward, instructed by the Town Clerk of Hereford, Mr. R. Battersby. By both Judge and Counsel, as well as by the parties concerned, the case was regarded as of considerable public importance, it is the first of the kind in Hereford.

The question for His Honour to decide was: Was the carcase unfit for human food, and, if not, what was the carcase unfit for human food, and, if not, what was the

it is the first of the kind in Hereford.

The question for His Honour to decide was: Was the carcase unfit for human food, and, if not, what was the value of it? Though living at Swainshill, Mr. Goodwin, who farmed many years at the Havod, Credenhill, farms 60 acres of land at Winforton, a Mr. Davies looking after the stock. In March last he bought a bunch of 24 cattle at Hereford and fed them at Winforton; the average price was £25 4s. On October 29 eight of these animals was drawn for market, but on the journey to Hereford they became stupid, and the heifer in question, a three-year-old, ran wild. She was, therefore, left for three nights at Mr. Edwards', Byford House, being ultimately conveyed to Hereford in a bull cart. It was taken direct to the city abattoir, and killed by the Corporation slaughterman, who in dressing it noticed something abnormal in one of the organs, and called the attention of the manager to it. The acting Medical Officer of Health, Dr. Gold, was asked to see it, and pronounced the carcase unfit for food.

The claimant's contention that it was perfectly good, free from disease, and fit for food, was borne out by the sworn testimony of four veterinary surgeons—Mr. S. Beeson, Mr. J. L. Barling, Hereford; Mr. W. D. Blanchard Leowingter. and Mr. Lohn Molecular Leowingter.

strate who signed the condemnation certificate; Dr. D. D. Gold, acting Medical Officer of Health for the city and M.O.H. for the county; Mr. F. V. Steward, local Veterinary Inspector for the Board or Agriculture; Mr. S. Protheroe, City Sanitary Inspector; also by the acting manage of the slaughterhouse, Mr. T. Jones; Mr. F. J. Merz, the slaughterman who dressed the carcase, and Mr. C. A. Blackford, the outfall works engineer, who saw the meat put into the destructor.

Dr. Gold stated that the carcase was unususlly moist, and the flesh was soft, rather dark in colour, as if the blood was unoxygenated. The carcase had an unusual smell, as if uriniferous. The slaughterman said the animal's bladder was distended, and burst while it was being removed, even though he he took special care with it. Mr. Protheroe averred that the carcase never "set," and was repulsive looking.

The remaining witness for the Corporation was Mr. F. W. Barling, veterinary surgeon, who was too ill to attend. The Arbitrator, Counsel and Solicitors therefore motored over to Bartestree Court to take his evidence, which was to the effect that the meat was not fit for food—an opinion opposite to that of his brother.

The case had not concluded on Thursday and was strate who signed the condemnation certificate; Dr. D. D.

for food—an opinion opposite to that of his brother.

The case had not coucluded on Thursday, and was continued Friday morning.

continued Friday morning.

His Honour Judge Tobin, K.c., delivered a written judgment, in the course of which he says:—

"The officials of the Corporation caused the carcase of a heifer belonging to Mr. Charles Goodwin, of the Havod, Credenhill, to be destroyed on the ground that it was unsound or unwholesome. or unfit for the food of man. The words 'sound' and 'unsound,' which occur frequently in the course of this judgment are intended to cover each of these points."

"It is admitted by the Corporation that when Mr. Goodwin sent the heifer to the abattoir to be killed he did not suspect, and there were no grounds for suspect.

did not suspect, and there were no grounds for suspecting, that she was unsound.

It is admitted by Mr. Goodwin that the Corporation

It is admitted by Mr. Goodwin that the Corporation officials, that is to say, the Medical Officer of Health and the Sanitary Inspector, and the Corporation employees at the abattoir, that is to say, Thomas Jones, the acting manager of the abattoir, and Mertz, the slaughterman, formed an opinion in perfect good faith, that the carcase was unsound.

It is important to bear in mind that if the carcase was in fact sound, Mr. Goodwin is entitled in law to compensation, and that the Corporation is not relieved from liability by reason of the perfect good faith of the officials and employees."

"I have to disentangle the threads of an extraordinary complicated case, and having regard to its importance, to the publicity given to it, to the conflicting opinions given by eminent professional men, and to the contradictory statements made on oath by gentlemen of position, I think it is desirable to set out the evidence at unusual length."

His Honour then goes into the evidence in detail.

The claimant's contention that it was perfectly good, free from disease, and fit for food, was borne out by the sworn testimony of four veterinary surgeons—Mr. S. Beeson, Mr. J. L. Barling, Hereford; Mr. W. D. Blanch ard, Leominster; and Mr. John Malcolm, Veterinary Surgeon to the Birmingham Corporation, a recognised authority on meat inspection.

Mr. C. Green, of Burghill, a butcher of long experience, was positive that the meat was not in the least tainted, and on his evidence that the carcase weighed 600 lb. the value was mutually agreed upon at £32, in the event of the Arbitrator deciding in Mr. Goodwin's favour.

Dr. W. B. Butler, while not posing as an expert in such matters, also said portions of the meat shown him by Mr. Beeson were sound.

Evidence that the meat was wholly unfit for human consumption was given by Mr. Edgar Morris, the magi-His Honour then goes into the evidence in detail.

His Honour concludes: "For the above reasons I find that the meat was sound and fit for the food of man, and I award Mr. Goodwin is entitled to recover £32 and the costs of the arbitration taxed upon the High Court

I have the greatest sympathy for the Medical Officer of Health, for the Sanitary Inspector, and for the Corporation employees at the abattoir. It is their duty to be vigilant, and to remember the grave consequences that might result if unsound meat were allowed to be sold. In such a case it is infinitely wiser to err on the side of over-caution than of laxity. In my opinion, not the slightest blame attaches to any of them. It is only after a microscopical examination of facts and opinions in open court, and after every element has been minutely scrutinised and elaborately discussed, that the precise truth has at last emerged."—The Hereford Mercury.

THE REIGATE "MISCARRIAGE."

To the Editor of "The Veterinary Record."

Sir,-To my mind the case of Mr. Chas. Squair, in your last issue, is one for appeal to a higher Court. A very small subscription from a number of practitioners would meet the expense, if Mr. Squair would have no

objection No wonder that Mr. Squair became "dazed" at such an unexpected turn of events. An upright person often proves a poor witness in his own case under such cir-

cumstances.

It is almost incomprehensible how any respectable client could be found to dispute payment of such a legitimate fee—especially as the colt made such a great recovery after so trying an operation. Why, the smallest farmer in Ireland would not only pay cheerfully, but would continuously extol the operator.

I hope that Mr. Squair is under a misapprehension with regard to the part played by a "brother practitioner." Of course, there can be no second opinion as to the duty of a brother practitioner, which is—that he should endeavour to shield his neighbour, even if the

latter had made a slip.

The only misfortune in the affair was that Mr. Squair had not the opportunity of opening the second tumour after it dropped off. He handled his work with great care and skill up to that point.—Yours truly,
Model Farm, Athy.

Sth April.

JOHN HOLLAND.

Sir,-I have had so many letters from members with expressions of sympathy re my recent County Court case, that owing to exigencies of war, etc., causing pressure of work, I have not the time to answer them seriatim.

Would those good and true men accept, through the edium of your valuable paper, my best thanks. "I'm medium of your valuable paper, my best thanks. no deid yet."—Yours, etc.,

CHAS. A. SQUAIR.

The Gables, Reigate, April 9th.

While Mr. Prothero is considering restrictive measures in the interetts of those whose aim is to encourage the production of sound horses he might with great benefit to the country attempt to frame a measure for the purpose of scotching or killing mongrelising. In cattle especially the use of rubbishy cross-bred and mongrel bulls is still unfortunately rather common, and the natural result is an undue proportion of bad stock for breeding or feeding purposes.—Glasgow Herald.

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, April 5. REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lt. to be temp. Capt. :- B. L. Secker (Mar. 21).

Temp. Lts. to be temp. Capts.:—L. S. Balls (Mar. 22); J. I. Scott Moncreiff (Mar. 23).

April 9. Lt.-Col. T. W. Rudd to be actg. Col. while holding the appt. of Dep. Dir. of Vety. Servs. (Mar. 24).

April 10.

Lt.-Col. H. T. Sawyer, D.S.O., relinquishes the temp. rank of Col. on alteration in posting (Mar. 14).

Lt.-Col. R. N. Cranford to be actg. Col. while holding the appt. of Dep. Dir. of Vet. Servs. (Feb. 17).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Capt. A. R. Routledge relinquishes his commn. on acct. of ill-health, contracted on active service, and is granted the hon. rank of Capt. (April 10).

April 10).

Capt. (temp. Maj.) R. G. Anderson to be Maj. (Mar. 30).

Personal.

PENHALE-DAWES. On 3rd inst., at Christ Church, West Bromwich, by Rev. B. G. Nicholas, Vicar, William Percivall Penhale, M.R.C.S., L.R.C.P., second son of Mr. and Mrs. W. Penhale, of "Penbode," Holsworthy, Devon, to Doris Muriel, younger daughter of Mr. and Mrs. H. J. Dawes, of "Camden House," West Bromwich.

WHAT SYSTEM WILL DO.

It will produce more work and of a better quality. It will clear the mind of cobwebs and of brain ash.

It will increase your business and decrease your expenses. It will increase effectiveness, lengthen life and make it worth living.

will foster the habits of promptness, thoroughness and decision.

It will increase the respect of your clients and your popularity with them.

It will enable the mediocre man to accomplish more

than others of much greater ability.

It will make you happier, because your life will be more orderly and more harmonious.

will increase your efficiency, because it will increase your self-confidence and self-respect.

It will enable you to make better use of your experience

and save you from the pitfalls of practice.

It will enable you to find anything you want immediately,

instead of losing valuable time hunting for it.

It will create the habit of doing things to a finish, instead of the slipshod, slovenly h bit of half doing

It will make you presentable at all times, because the systematic man is never slipshod or slovenly in his person or dress.

It will act as a great encourager, because there is no tonic like the consciousness of being master of what

one undertakes.

will make a man better balanced, better poised mentally, and more optimistic, and the future will not terrorise him, because he will feel that he is equal to any emergency that may arise in his affairs.

Embryomas in plants induced by Bacterial inoculation.

Embryomas in plants induced by Bacterial inoculation.

Among the interesting addresses given by Sir James Paget, one of the most attractive is that on elemental pathology delivered at Cambridge in 1880 and devoted to vegetable diseases, which he had studied as a hobby in what he called "the idleness of vacations." When preparing this address he nearly abandoned the subject when he found the vast amount of good scientific work that had already be done even then on the subject. Since then further researches have gone on.

Erwin F. Smith (Bull. Johns Hopkins Hosp., Baltimore, 1917, xxviiii, pp. 277-294), working in the laboratory of plant pathology, Bureau of Plant Industry, U.S. Department of Agriculture, Washington, D.C., has, with his co-workers, produced since 1906 hundreds of crown galls on various plants by inoculation of pure cultures of a white, rod-shaped, polar flagellate schiz myeete. The crown gall is a tumour common in wild and especially in cultivated plants, and is analogous to a sarcoma. When the connective tissues only of the plant are stimulated by inoculation of cultures by the Bacterium tumefaciens this crown gall develops; the parasite, which is intracellular and not very abundant in the tumour, does not destroy the cells, but stimulates them to abnormal growth by means of its diffusible products.

A new and remarkable result has been obtained by introducing pure cultures of the micro-organism by needle pricks into the growing tissues of susceptible plants in the neighbourhood of the totipotent or pleuripotent cells, which may be either dormant axillary buds or merestematic cells remote from the leaf axils; these

cells begin to grow, and a complex tumour or embryoma results. These embryomas, which are produced as readily as the ordinary crown galls by inoculation in a different site, contain sarcomatous tissue and rapidly developing abortive parts of the young plant roots, stem, leaves, and flower buds, or cells with floral pigment. The organs or tissue fragments in these atypical teratoid tumours are poorly vascularised, abort at various stages, usually early in development, and the organs or fragments or fragments or organs are often monstrous, simplified, reduced, reduplicated, and invaded by sarcoma. These experimental embryomas have been obtained in fifteen different families of plants. As the author has obtained the first stages of cell division in the epidermic cells by bacterial infection he anticipates that further research will be followed by the production of carcinoma.

The tumours, common on elms and apple trees, called cankers, and due to injury, present considerable superficial resemblances to human cancer, but, as Sir James Paget pointed out, are more closely allied to cheloids.—

Brit: Med: Jour:

Anglo-Franco-Belgian Veterinary Relief Fund. British Committee.

Chairman : Hon. Treasrs. :

F. W. Garnett, c.B.E., J.P., M.R.C.V.S. J. A. W. Dollar, M.R.C.V.S. T. Salusbury Price, M.R.C.V.S. Sir Stewart Stockman, M.R.C.V.S.

Fred Bullock, 10 Red Lion Square, London, W.C.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Fo and-2 Dise		Glan	Glanders.†		sitic nge. ‡		Swine Fever.			
		Out- breaks (a)	Ani- mals.	Out- breaks	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.		
GT. BRITAIN. W	eek er	nded Apı	ril 6	10	10					96	219	5	19	7
Corresponding week in	1	1917 1916 1915		10 13 12	11 15 19			2 1 2	6 1 3	44 53 68	110 107 143	5 4 2	59 86 57	30 235 222
Total for 14 weeks	s, 1918	3		96	110			10	30	1962	3837	206	214	83
Corresponding period in	{	1917 1916 1915		190 181 220	222 216 247	1	24	10 20 9	19 59 14	1065 1054 ‡68	2269 2581 ‡143	327 153 136	611 1164 1004	226 3611 4190

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, April 9, 1918

Excluding outbreaks in army horses.

IRELAND. Week ended	Mar.	30				 		Outbreaks 2	2	1	2
Corresponding Week in {	1917 1916				:::	 		2	12	3 6	23
Corresponding Week in	1915				1	 		2	17	6	30 33
Total for 13 weeks, 1918			1	1		 		46	135	6	26
Corresponding period in	1917 1916 1915		2 1 1	2 5 1	::	 1 	1 	15 22 13	166 172 175	58 59 65	367 294 407

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 2, 1918.

The figures for the Current Year are approximate only.

* As diseased or Exposed to Infecti

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1554.

APRIL 20, 1918.

Vol. XXX.

CLINICAL METHODS.

It is generally admitted that in many directions the clinical methods of veterinary practice are likely always to fall more or less short of those of the medical man. Nevertheless, veterinary surgeons continue to improve their clinical methods, and to modify them in accordance with the anatomical and physiological peculiarities of their different patients. Less than twenty years ago, most veterinary surgeons considered the passage of the stomach tube in the horse as not very far from impossible, and the catheterisation of the cat as quite so. Both measures are now frequently adopted in practice by an increasing number of clinicians, who having learned their technique find no particular difficulty in performing them. What was wanted, and has been obtained in each case, was simply a modification of the instrument to suit the peculiarities of the animal. The steadily increasing use of the ophthalmoscope in general practice is another case in point, and another is the successful application of rhino laryngoscopy and cystoscopy to certain animals, though neither of these latter have yet become established in practice. Yet another is the equine operating table, which is gradually finding its way into infirmaries of large practices.

All veterinarians can now recognise how much the general acceptance of chloroform by the profession-which, though it came tardily, was rapidly accomplished when it did come—has done to bring veterinary surgery nearer to the human level. Other surgical developments have had the same effect, in of the last thirty years—is one instance, and the much more recent introduction of skin sterilisation by iodine or similar drugs is another. Both these great developments originated in the medical profession, both have been at once taken up by us, and both—especially perhaps the latter—have enormously facilitated our work and improved its results.

Veterinary and medical operations alike can be divided into two great classes—those performed in well-appointed hospitals and those undertaken in the more difficult circumstances of private practice. In both cases, and especially the latter, veterinary technique is infinitely nearer the level of human surgery than it was a generation ago. Veterinary titioners.

These are great advances. Their most valuable feature is that they are not confined to laboratories and schools—they are developments of general practice; and their greatest effect has been, and will be, to raise the general standard of the working clinician.

AN UNDEVELOPED TWIN.

As I always appreciate so much the original articles and descriptions of cases by other V.S., I feel somehow it is my duty to do my little bit in sending along anything a little out of the common which may be of some small interest to others.

A few days ago I happened to be at a farm where a cow had calved down just previous to my arrival, she was a big framed, 6 gallon cow, and had given birth to a good, strong, normal heifer calf. With the afterbirth, and attached to it, came away the subject of these few notes. It was a little larger than an ordinary full-sized football, and had evidently continued development up to the last, as it smelt quite sweet, and the hair was as clean and as firm as on the live calf. I had the specimen photographed before and after opening, and then sent it to Dr. O. Charnock Bradley, of Edinburgh, who has very kindly sent me the enclosed description and notes.

Horsham.

SAM SMITH.

NOTE BY DR. O. CHARNOCK BRADLEY.

"The specimen is evidently one illustrating the effect produced in a twin when the co-twin domsome cases a more rapid and marked one. Local inates the circulation. As has been shown recently anæsthesia by hypodermic injection—an outgrowth of the last thirty years—is one instance, and the 1917, xxIII, 371-452) fusion of the chorions of twins and anastomosis of circulation, is very common in cattle. In only two instances out of 55 specimens of twin pregnancy in cattle examined by him were there two separate chorions.

It was at one time assumed that twins in which one became markedly malformed were monozygous, that is, were developed from a single fertilised ovum. Lillie's investigations, however, would seem to point to their origin from separate ova, fusion of the chorions taking place at a variable time during gestation. This would account for the varying degree of malformation presented by different specimens.

The present specimen is mainly an amorphous surgeons in private practice, at the cost of very mass of fat and muscle, with some traces of the little trouble, can now perform many operations bones of the skull and coils of indeterminable quite as aseptically as can general medical prac-intestine. An extremely malformed mouth is present, but no other organs can be recognised with any degree of certainty.'

CONTAGIOUS ABORTION AND MILK ANALYSIS.

Recently the writer was consulted concerning the analysis of milk produced by cows affected with abortion, and as a reference to the available literature on this disease failed to give the desired information, tests were carried out and are here recorded.

The presumptive standard laid down by the Sale of Milk Regulations of 1901, which were made by the Board of Agriculture under powers given by the Sale of Food and Drugs Acts, has been the subject of much discussion. These regulations state that a sample of milk which contains less than 3 per cent. of fat or less than 8.5 per cent. of solids not fat, shall be presumed for the purposes of the Acts, until the contrary is proved, to be not genuine, by reason of the abstraction of milk fat or solids not fat (as the case may be) or the addition of water.

A cowkeeper who is proceeded against and uses as a defence that the milk he sold was from cows affected with abortion will, in view of the following tests. be probably convicted.

The following table gives particulars regarding the cows from which samples of milk were taken for analysis.

Sample.	Breed.	Age.	Expected.	Calved.
No. 1	Ayrshire	4 yrs.	Dec. 5	Oct. 1
2	,,	3	Oct. 5	Aug. 13
3		5	Nov. 24	Aug. 20

The animals were primiparae and had received no medicinal or other treatment for abortion.

The samples were taken at the ordinary milking time and on completion of the milking. Each udder was completely stripped and the milking was done by the usual attendant.

The particulars concerning the number of days between the expected and actual calving and the time that elapsed after abortion before the samples were taken, were as follows:—

Sample.	Calved before expected.	Sampled after abortion.
No. 1	Days 65	Days 6
2	" 53	,, 55
3	96	48

The analytical part of this enquiry was carried out by Mr. T. A. Wilson, F.I.C., who kindly furnished me with the results given below:—

Sa	mple	Nos	. 1	2	3
Spec. grav. at 15	.5° C		1.0337	1.0306	1.0338
Fat		p/c	4.67	4.37	3.53
Total solids		,,	14.56	12 98	12.69
Non-fatty solids	3	,,	9.89	8.61	9.46
Lactose		,,	4.2	4.2	5.1
Ash		,,	0.84	0.70	0.78

From the analysis it is apparent that the samples consisted of genuine whole milk as defined by the Sale of Milk Regulations of 1901.

The chief causes in the variation in the composition of milk are considered to be:—the individuality or breed, age, stage of lactation, general condition,

weather, change of milker, method and rapidity of milking, excitement, disease, season of the year, feeding, and the interval between the times of milking.

W. J. Young, F.R.C.V.S., D.V.S.M. (Vict).

ABSTRACTS FROM FOREIGN JOURNALS.

A CASE OF BOVINE PUERPERAL MANIA.

Luigi Zerboni reports the following case. On January 6, 1918, he was called to a cow stated to be presenting symptoms of rabies. He found a five-year-old cross-bred cow, in good condition. The animal had calved satisfactorily the day before, expelling the after-birth and maintaining the appetite and all the organic functions unaltered. Afterwards she had suddenly presented the following symptoms, which Zerboni observed.

The skin was normal, and the hair smooth. The eyes gave the impression of a slight degree of excitement. The saliva was flowing in filaments from the commissure of the lips: and the jaw was constantly being moved in an action resembling seizing more than mastication. Fever was absent; and the pulse was full and almost normal.

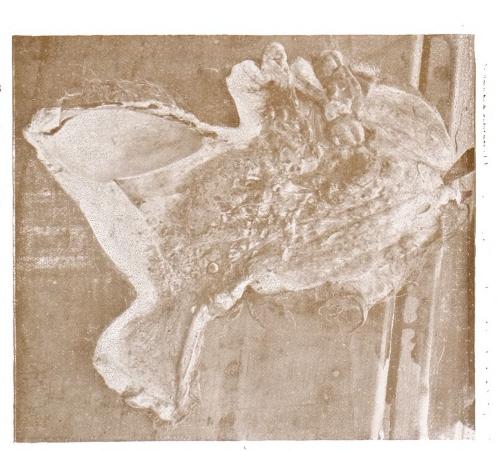
In the stall the cow was constantly biting the wood of the stable, the chain, and her own fore limbs, as if she suffered from marked pruritus. The biting was not of a ferocious nature.

When taken outside the stall and made to walk, she proceeded normally so far as the movements of the limbs were concerned; but she continually held the head very low, almost touching the ground, in the attitude of a hunting-dog following a scent. When left free to move independently, she was able to recognise and avoid obstacles, but did not respond to the call of the owners. She seized food presented to her, but did not masticate it.

Zerboni diagnosed the case as one of puerperal mania, and prescribed 25 grammes of chloral hydrate in 250 c.c. of infusion of camomile. Returning the next day, he found the cow completely recovered. The owner stated that the symptoms had disappeared half an hour after the adminstration of the chloral.

This is the first case of the kind that Zerboni has seen in seventeen years of professional practice; and he records it partly to confirm Fleming's statement with regard to its prognosis and treatment, and partly to draw the attention of young colleagues to a disease which might easily be confused with rabies. He offers no hypothesis as to the causation of the disease, but points out that certain factors to which other observers have attributed it could be excluded from this case. The cow had always had her calf near her, she was constantly kept in a rather warm and sufficiently hygienic stall, and there was no digestive disturbance.—(La Clinica Veterinaria).





To illustrate notes by Mr. Sam Smith and Dr. O. Charnock Bradley.



ANOTHER POISONOUS FUNGUS.

In May, 1916, at the Bacteriological Institute of the National Department of Hygiene, F. Rosenbuch and J. Zabala had occasion to observe in the province of Buenos Aires a hitherto unknown bovine disease characterised by trembling and falling of the animals, and sometimes accompanied by rapid death. The disease is known by the names of "tembleque" or "chuco." Study of the blood of affected animals excluded the presence of microorganisms, and negative results of injections of such blood both in cattle and in other species of animals likewise excluded the idea of a parasitic nature of the disease. Rosenbuch and Zabala were led to the opinion that the disease was produced by intoxication due to an unknown cause.

The correctness of this diagnosis is now demonstrated by examination of the flora of the pastures where the disease has appeared. The pastures abounded with the grass Paspalum notatum Flug., which is perfectly innocuous when sound, but is poisonous when it is attacked by a certain fungus. The grass attacked by this cryptogam the species of which is not yet determined, is, however, innocuous

to horses.

On that account Rosenbuch and Zabala advise, as a preventive measure, that horses should be put into the pastures before cattle are placed there. When that is impossible, they advise passing a rake over the pastures, as the affected portions of the grass, being much more easily detachable than the sound ones, are thus made to fall. As curative measures, they recommend jugular bleeding, subcutaneous injections of eserine and pilocarpine, and purgatives.

The same disease has been observed by Juan N. Murtagh in the provinces of Buenos Aires and Santa Fé, where it affected from 30 to 50 per cent.

of the cattle.—La Clinica Veterinaria.

THE RESULTS OF ARYTENOIDECTOMY.

The following is a description of the larynx of a horse which had been subjected to the operation of arytenoidectomy in 1906 and used as a saddle horse until 1913. The specimen was shown to La Société de Medécine Vétérinaire, by Mullet, who gave the history of the case. The horse was useless from roaring, so operation was decided upon. Cricotomy was first tried without success, and afterwards arytenoidectomy was practised. Two months after this operation, which was performed by Cadiot, Mullet commenced to have the horse walked, and then proceeded to gradual exercise and to saddle work. At the end of six weeks the horse returned to his habitual amount of work.

Up to the sixth month the roaring persisted in the same degree as before the operation. In the seventh and eighth month a progressive improvement was initiated; and this continued so that at the end of the ninth month the horse was able to bear a fast and long [trot without any abnormal sound being produced. The only abnormality that Mullet was able to observe was that when the animal entered the stable and drank rapidly about half

a litre of water escaped through the nostrils, but the same phenomenon was never noticed in the case of solid food. That is to say, the functions of the pharynx were normal when the animal swallowed solid food, and only the deglutition of liquids enabled a certain functional imperfection to be seen. This latter was of little importance.

The horse ultimately died from other causes, and Mullet made a post-mortem examination of the larynx. He found a fold of mucous membrane at the region of the base of the excised arytenoid, and to this he attributed the fact that the success of the operation had not been more complete. The left vocal cord was farther away from the median line of the larynx than the right one; it was very manifestly directed outwards, and definitely fixed in that position by cicatricial contraction. There was no doubt that the ablation of the paralysed left arytenoid widened the laryngeal opening. The left laryngeal ventricle was also reduced to a third of its normal amplitude.—Revistade Higiene y Sanidad Veterinaria.

Contagious Abortion in Mares and Joint-Ill in Foals.

Royal Veterinary College, Camden Town, N.W. 1.,

W. R. C.

To the Editor of "The Veterinary Record."

Sir,—About a year ago you were kind enough to use your columns to intimate that a special serum for use against contagious abortion in mares and joint-ill in foals had been prepared in the Research Institute at the Royal Veterinary College, and that it would be supplied gratis on application to members of the profession.

I now desire to make it known that a considerably larger quantity of the serum is now ready for use during the present foaling season, and, as before, it will be issued free of charge to practitioners who are willing to accept it under certain conditions. The most important of these is that the fullest possible information with regard to the treatment and any circumstances bearing on the origin of the case shall eventually be furnished to me.

I am, Sir, yours faithfully, 17th April. J. M'FADYEAN.

THE SUPPLEMENTARY RATION.

ROYAL COLLEGE OF VETERINARY SURGEONS, 10 RED LION SQUARE, W.C. 1. 13th April, 1918.

To the Editor of "The Veterinary Record."

Sir,—I shall be glad if you will kindly give publicity to the following letter which I have received from the Ministry of Food. At this period of the year no doubt many practitioners will be glad to avail themselves of the opportunity to obtain supplementary rations.—Yours faithfully,

FRED BULLOCK, Secretary.

MINISTRY OF FOOD, GROSVENOR HOUSE, W. 1. 12th April, 1918. Ref. L14/23480.

The Secretary,

Royal College of Veterinary Surgeons, 10 Red Lion Square, W.C, 1.

Sir,-I am directed to acknowledge the receipt of your letter of the 11th inst., and to inform you that Veterinary Surgeons are included in the List of those persons entitled to the Supplementary Ration. They will be graded under Class "D."

I am to add that any further inquiries on this subject should be addressed to your Local Food Office.—I am Sir, your obedient Servant,

(sgnd.) J. S. LEAVER, Supplementary Ration Section.

A NOTE ON DOURINE.*

By Colonel H. T. Pease, C.I.E., V.D., I.C.V.D., Principal, Punjab Veterinary College, Lahore.

Introduction.

This disease is a specific disease of the horse and ass caused by a trypanosome and spread by coitus. It is, therefore, confined to breeding animals and, on account of its insidious nature and serious effects, is of great importance so far as the horse-breeding industry is concerned.

concerned.

I discovered a severe outbreak of the disease amongst the stallions of the Horse-breeding Department in 1902, but energetic measures stamped it out in all the districts in which it was known to exist, and no cases have occurred in them until quite recently, when a few cases appeared in the Dera Ghazi Khan District which enquiry showed had been introduced from Baluchistan, where the malady was not known to exist in 1902.

It now appears that the disease prevails to a large degree in Baluchistan and hence the present note may prove of interest.

Trypanosomes are Protozoa of the class Flagellata

prove of interest.

Trypanosomes are Protozoa of the class Flagellata characterised by the possession of a fusiform body more or less elongated, with at one extremity a flagellum which is continued along the body of the parasite as the the thickened edge of an undulating membrane. The body is composed of protoplasm. There is a nucleus situated about the middle of the body, and a small chromatic body which is called the centrosome is situated quite near the end opposite to the free flagellum. Along the upper part of the body and bounded above by the flagellum which starts from the centrosome is a thin membrane, the undulating membrane. The flagellum is animal trypanosomes often extends a short distance beyond the body, forming a free flagellum. Movement is secured by the lashing of the flagellum which actuates the undulating membrane.

The animal trypanosomes multiply by longitudinal division in the blood or lymph. Like other animal parasites, they often effect a robbing action on the host. They excrete toxic material and in some cases give rise to local chronic inflammations. They usually appear in crops which die off for the most part to be succeeded by another crop.

The common trypanosomes of the horse in India are:

(1) Trypanosoma evans, causing Surra. Trypanosomes are Protozoa of the class Flagellata

Trypanosoma evansi, causing Surra.
 Trypanosoma equiperdum, causing Dourine.

T. equiperdum was first discovered at the remount depot at Constantine by Rouget in 1894. The strain of virus which he was dealing with appears to have been of exceptional virulence. Schneider and Buffard againfound the trypanosome in horses and donkeys and reproduced the disease in the horse by the parasites passed through the dog in 1899. The virulence of their parasite was less than that found by Rouget, and they were inclined to think that the latter had been dealing with another trypanosome. The great variation of virulence of the trypanosome in different countries, especially in regard to its effects on inoculated animals, greatly discounts Schneider and Buffard's contention. Laveran and Mesnil agree that Rouget was dealing with the Dourine trypanosome. Doflein named the parasite Trypanosoma equiperdum in 1901, a few days before Laveran and Mesnil suggested the name of Trypanosoma rougeti, so the former must, according to the law of priority, stand. priority, stand.

rougeti, so the former must, according to the law of priority, stand.

In regard to the measurements of the trypanosome there is some difference of opinion. Laveran and Mesnil make it 25 to 28u long. The longest example found in India was 35'8u. The mean in the vaginal mucus was 22u, the longest found being 31'28u. The variations in size were so great that it was at one time thought that more than one variety of parasite was being dealt with. The average breadth is 1'48u mean, the maximum being 3'32 and the minimum 0'85.

In ordinary fresh preparations the parasite resembles the Surra parasite Trypanosoma evansi from which it cannot be distinguished morphologically. It stains fairly uniformly but perhaps a little less deeply than the other, and possesses usually no chromatic granules. The only form of division so far seen in this country is that by longitudinal division. Laveran and Mesnil talk of trypanosomes with six nuclei two of which were still dividing. Rabinowitsch and Kempner talk of parasites with eight or ten nuclei arranged in the form of a rosette. Possibly, too, one of Schneider and Buffard's figures represents a similar case of multiple division.

Vitality of the parasite.

Vitality of the parasite.

Vitality of the parasite.

Trypanosoma equiperdum appears to be a strict parasite. It retains its motility only for a few hours in the blood outside the body; but Laveran and Mesnil have seen it remain motile for 48 hours in a sealed preparation kept at a temperature of 36°C. Schneider and Buffard found that the blood of an infected animal is non-infective after 24 hours, and this is our experience in India. The trypanosome is said to retain its virulence for three days when mixed with citrate solution and kept in the refrigerator. It keeps for two days in defibrinated blood and for only one day after the addition of horse serum. addition of horse serum.

(To be continued.)

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918.

subscriptions for 1918 :—			
A. C. Duncan, Maj. A.v.c.	£1	1	0
G. E. King, Abingdon	1	1	0
G. D. Lansley, Axminster P. Vincent, Romford	1	1	0
*Veterinary Officers, British E. Africa	1	1	0
(1916, 1917)	21	0	0
Previously acknowledged	667	2	0
			_

£692 6 0 * This amount was received in 1917, but its announcement was delayed pending the receipt of a list of subscribers. The list has not yet arrived, but the names will be published as soon as it is received.

^{*} Agricultural Journal of India, Vol. XII, Part I. (Received for publication on 16th Nov., 1916).

H. Andrew, Borough

VICTORIA VETERINARY BENEVOLENT FUND.

A Council meeting was held at 10 Red Lion Square, on Thursday, April 4th, when the following members were present: Mr. S. H. Slocock, President, in the Chair; Messrs. N. Almond, G. A. Banham, W. F. Barrett, H. Sumner, E. A. West, Prof. G. H. Wooldridge, and Mr. P. J. L. Kelland, Hon. Sec. and Treas.

The minutes of the previous meeting, having been

printed, were taken as read and confirmed.

Apologies for absence were received from Messrs. Dunstan, Gooch, Howard, MacCormack, Price, and Trigger.

REPORT BY THE HON. SECRETARIES.

Since the last quarterly meeting the following new subscriptions and donations have been received :-

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No	her	rin	12.0	278

II. IIIuiow, Dolough	~ L		0				
S. Bennett, Cambridge		10	6				
S. C. J. Bennett, Cambridge		10	6				
W. W. Grasby, Daventry	1		0				
G.J. Harvey, Bangkok (Life M.)	10	10	0				
R. N. Lewis, Capt. A.v.c.		10	6				
J. S. McCann, Tullamore		10	6				
F. C. Mahon, Chiswick		10	6				
	2	2	0				
J. H. Norris, D.A.T.I.		10	6				
J. M. L. Penhale, Bd. of Agric.		10	6				
J. H. Pierse, Listowel		10	6				
A. Payne, Weybridge		10	6				
H. S. Reynolds, Daventry	1	1	0				
W. H. Taylor, Maj. A.v.c.		10	6				
	-			21	0	0	
Donations.							
J. Brown, Invergordon		10	6				
Anonymous (D.M.)	5	0	o				
M. Clarkson, Richmond	1	1	0				
National V.M.A.	10	10	0				
Anonymous (Siam)	6	2	11				
F. Bazley. Devizes	4	4	0				

A. Gofton, Capt. A.v.c. Midland Counties V.M.A.-10 per Mr. F. L. Gooch Royal Counties V.M.A.— 3 0 0 Dividends on War Loan 1 10 4

Collecting Boxes: S. H. Slocock 7 0 Royal (Dick) Vety. College 11 $0\frac{1}{2}$

 $33 \ 16 \ 3^{1}_{2}$ Boltons Cinema Fund 10 10 0

£65 6 $3\frac{1}{2}$

Several subscriptions for 1917 are still outstanding, notably those of twenty members who paid in 1916 which we shall try to get in. In the case of army officers who signed banker's orders during 1917, eight are still unpaid for the present year, and a communication has been sent to Messrs. Holt on the matter.

As will be seen from the correspondence to be read, we have good friends in the Midland Counties V.M.A. and the Royal Counties V.M.A., and if the generous action taken by these two Societies were followed generally, there would never be any anxiety for the welfare of the Fund.

One member of the Fund made an offer to double his subscription if 100 other members would undertake to double theirs or to secure another 100 subscribers. We advertised this offer in the Veterinary Press, but so far without any response.

In the case of the boy Farr, we are informed by the doctor that he is not strong enough to go to a public sold by auction at Mr. Jones' farm, Crumpsall, which school, and the London Orphan School Committee have made £152.

been unable, therefore, to accept him as a candidate. Letters from the school and the mother will be read.

In Case No. 37, to be brought before you to-day, a grant of 10/- per week has been made by the National Veterinary Medical and Mutual Defence Society, and on the authority of the President and Treasurer a similar grant for the past two months has been made from this Fund.

It was resolved: That the report be received and adopted

Correspondence. A letter was read from the Secretary of the Central V.M.S. nominating Mr. J. W. McIntosh as representative of the Society on the Council of the Fund.

A letter (19th Feb.) was read from Mr. F. L. Gooch, reporting that a collection on behalf of the Fund had been taken at the February meeting of the Midland Counties V.M.A., resulting in a sum of £3, a cheque for which was forwarded. At the same time seven members present arranged to take collecting boxes. It was resolved: That the best thanks of the Council be conveyed to Mr. Gooch for his friendly action, and to the Midland Counties V.M.A. for their generous sympathy with the needs of the Fund.

The following letter (21st Feb.) was received from the Secretary of the Royal Counties V.M.A.:—

"I have pleasure in forwarding to you the enclosed cheque for £1 19s. 4d., which is the interest on money the above Society has invested in War Loan. I hope to send you a cheque at the end of each year in addition to our annual contribution, and it is our hope that other Societies may think fit to do likewise. I have also to acknowledge your letter of the 20th inst., re representatives to the Fund, which will be placed before the members.—Yours faithfully, G. P. Male."

It was resolved: That the best thanks of the Council be conveyed to the Royal Counties V.M.A. for their generous donation, and also for their very valuable recommendation of the Fund to the attention of other Societies.

Relief. Applications were received for the reconsideration of Cases 1 and 12, in which the Council had discontinued the grant, but it was resolved: That the applicants be informed that in the present circumstances the Council regret that they cannot accede to the requests made.

Case No. 37. M.R.C.V.S., without means, in hospital. On the proposition of Mr. Barrett, seconded by Mr. West,

On the proposition of Mr. Barrett, seconded by Mr. west, it was resolved: That the grant of 10/- per week made in this case be approved, and continued for the present.

Case No. 38. Daughter of M.R.C.V.S. Cardiac trouble.

On the proposition of Mr. Barrett, seconded by Mr. Banham, it was resolved: That a grant of 10/- per week be made in this case for the present quarter, but that further enquiries be made as to the assistance the lady may be able to obtain from her brothers.

Annual Report. A draft of the Annual Report was submitted, and with one or two amendments was approved and ordered to be issued, together with the Annual Balance Sheet when audited, and a copy of the Revised Bye-laws.

Accounts. An account of £2 1s. 6d. for printing was passed for payment.

P. J. L. KELLAND, Hon Secs. FRED BULLOCK,

The latest official figures show that in 1917 the number of pigs in the United Kingdom was 3,008,000, nearly 1,000,000 less than in 1914—and the lowest on record since 1880. Big prices continue to be made for pigs of all classes, but the record so far is for a couple of gilts,

Auto-inoculation and Primary Development of the Horse Bot Larva.

E. Roubard, C. R. Acad. Sci., Mar. 12, 1917. " mode of entry of the larvæ of the horse bot (Gastrophilus intestinalis De Geer) into the intestinal tract of their intestinalis De Geer) into the intestinal tract of their host and the primary conditions of their development are still unknown. According to certain authors (Numan, Brauer) the young larvæ after hatching out make their own way into the mouth and nostrils. The majority of writers, however, state that the larvæ are introduced into the mouth by licking and then swallowed. The licking was attributed to the irritation set up by the presence of the small larvæ on the skin.

Some Russian authors have set forth special theories on this subject based on the discovery of Gastrophilus

presence of the small larvae on the skin.

Some Russian authors have set forth special theories on this subject based on the discovery of Gastrophilus on this subject based on the discovery of Gastrophilus alavae in cutaneous channels in a certain human myiasis. According to Cholodkovsky the larvae after leaving the egg penetrate into the epidermis of the horse and set up an irritation which would cause the animal to bite the invaded tracts and extract the larvae from them. Portchinsky, on the other hand, considers that only some of the larvae, which later die out, make their way into the epidermis; these fail to continue their development but the irritation set up by them would cause the horse to lick and collect with its tongue the other larvae which then pass into the digestive tract.

According to the author's observations the sequence of events occurs in a very different way. In the first place the eggs do not hatch out spontaneously and the primary larvae may remain within the egg in a state of latency for several weeks. Then the ripe egg liberates the larvae by mechanical contact. Contact with the wet tongue is not indispensable; sudden friction against the lips or tongue fulfils the same purpose and it is well known that horses very rarely lick themselves. The primary larvae thus liberated and brought into contact with the mucous membrance of the lips or gums immediately force their way underneath the epithelium; in this position they can be seen through the transparent epithelial wall. The primary larvae, unlike the larvae of Hypoderma, are not capable of penetrating the skin whether dry or wet. They then make their way along through the mucous membrane of the mouth gradually increasing in size during their course. The author observed a larva for nine days on the edge of the tongue of a guinea-pig, and at the end of this time it had increased three times in size and undergone a moult before entering the second stage."—Tropical Vety. Bulletin.

A TEXT-BOOK OF THE PRINCIPLES AND PRACTICE OF VETERINARY MEDICINE. By DAVID S. WHITE, D.V.M., Dean of the College and Professor of Veterinary Medicine in the Ohio State University, Columbus, Ohio. Pp. 484, including index. Price 13/- net. (Lea & Febiger, Philadelphia and New York).

and New York).

In his preface the author tells us that this work is designed primarily for the student, and adds that "it will be found valuable to the practitioner, investigator, and intelligent stockman who may have need of the fundamental principles of the practice of veterinary medicine presented in concise, clear-cut, and at the same time not too dogmatic form." The quoted sentence suggests that the book does not go very deeply into the many and complex problems of its great subject; and this unfortunately proves to be the case. The work embraces the whole field of veterinary medicine, so far as the diseases (including tropical ones) of the horse, ox, sheep, and pig concerned; those of the dog and cat are not included. This means that a very large field has to be covered in a comparatively small space; and the result cannot be called satisfactory. The majority of the most important diseases, such as tuber-

culosis, are treated with fair fulness, though with distinct compression and superficiality. On the other hand, many others, including not a few of considerable importance in practice, are dealt with very briefly. Rachitis, for instance, receives less than two pages, trichinosis about a page, and uraemia no more than half a page. The book is, as the author claims, concisely written; and, as his judgment in selecting the most essential matter is good, he has succeeded in bringing more information within his space than some writers would have done. For that reason the work may be of use for examination purposes to some students; but, taken as a whole, it must be said that it fails to treat its subject with the depth and fulness requisite for professional readers. Veterinary medicine, in these days, demands a much larger and more detailed work for its adequate presentation.

OBITUARY.

NYE.—On 4th inst., at "Erin," The Avenue, Loughton Harriet Mary, the dearly beloved wife of Sidney H. Nye, F.R.C.V.S.

WILLETT.—On Sunday, April 14, at a nursing home, Agnes Gray, the beloved wife of John Willett, M.R.O.V.S., 6 Harley Place, Harley Street, N.W.

ARMY VETERINARY SERVICE

War Office, April 11.

The King has been pleased to approve of the following rewards for distinguished services in the Field in connexion with Military Operations, culminating in the capture of Jerusalem. Dated January 1, 1918:—

THE MILITARY CROSS.

Capt. (T./Major) J. Adamson, A.v.c. Capt. E. N. Wood, Australian A.v.c.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL,

REGULAR FORCES. ARMY VETERINARY CORPS. Majors to be actg. Cols. while holding the appt. of Dep Dirs. of Vety. Servs.:—(Bt. Lt.-Col.) W. S. Anthony (Mar. 14); (Temp. Lt. Col.) R. H. Holmes, c.M.c. (Mar. 24)

Temp. Lieuts, to be temp. Capts.:—E. Armstrong, Robson, T. Hicks (Apl. 2).

April 16. Cemp. Qrmr. and hon. Lieut. to be hon. Capt.:—J. A. Weller (Apl. 8).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Capt. to be Maj.:—(actg. Maj.) S. Abson, D.s.o. (Apl. 1), Capt. J. F. Rankin is granted the acting rank of Major while empld. as D.A.D.V.S. (July 30, 1917). (Substituted for that which appeared in the Gazette of Sept.

Lt. to be Capt. :- E. Child (Mar. 24).

April 16.

The following casualties are reported :-Wounded—Capt. T. Craig, A.v.c. Maj. R. J. Stordy, D.S.o., A.v.c.

CASTRATION—A NOVEL DEFENCE.

Sir,—Re Mr. John Holland's letter in your last issue -if the profession care to appeal to a higher court, I have no objection, simply because I have made the running, paid the piper, and dug out the defence; which would be more than half the battle.

If I had the case to fight over again I should win, as I could have in court the two men who assisted me in 1916 and 1917, and who actually saw the operations; also defendant's coachman, and a man he had assisting him at the private stables (where I operated on two colts the same forenoon, 1917) to whom I imparted the information that the colt at farm was the subject of a tumour.

I can quite see your point, Mr. Editor, and also that of Mr. John Holland-where I was unfortunate in not being more careful over tumours when removed, but I can crave a certain amount of indulgence. We are at war; and at the particular time of year when I per-formed those operations it was a case of "putting your back to the wall" and getting through somehow. In the good old days, no doubt, I would have given more attention to the matter.—I am, yours, etc., CHAS. A. SQUAIR.

The Gables, Reigate, April 15th.

Joint-ill inquiry.

The following letter appears under the heading "Letters to the Editor," in The Scottish Farmer of Apl. 13:-

Sir.—I have read the recent announcement in your

paper on the above subject.
It is stated that "the second line of investigation has yielded much better results," and that "an interesting account of this laboratory work was submitted, and Profs. Muir, Dewar, and M'Call all expressed gratification with the results so far." Then, "the committee have resolved to proceed on the assumption that the continuous of the result of 1017 are well founded." clusions based on the work of 1917 are well-founded."

The last sentence leads me to urge that, before proceeding further the bacteriological results, together with the conclusions which have been drawn therefrom, and the consequent lines it has now been decided to go upon, should be published in a scientific journal, preferably a veterinary one.

I was present, as a visitor, at the recent meeting of the Glasgow sub-committee, and I venture to predict that if the findings and conclusions and intended lines of future

work are published as they were detailed to me in answer to my questions at the meeting, there will be as much astonishment amongst experienced veterinary scientists and practitioners, as there has been to me.—Yours truly,

G. H. GAIGER, Prof. of Bacteriology, Glasgow Veterinary College. 11th April.

Unscheduled Animal Diseases.

The following excerpts are from a letter by Mr. A. Levie, F.R.O v.s., of the Midland Agricultural College, which appeared in *The Furmer and Stockbreeder*, last year. There is no indication in the letter upon what basis the loss is computed, but it is common knowledge in the veterinary profession that in the aggregate the annual loss is very large, and that further education of the farmer in Sanitary Police is a first essential to a better state. The success against contagious abortion, and the promising commencement against swine fever are evidence that more can be accomplished.

owing to war conditions, these figures may be doubled To this must be added a similar number of animals which have recovered from sickness, but their produce or work, as the case may be, has been lost during the period of sickness, and their market value has decreased.

Three-fourths of the capital expended on a farm by a tenant is in live stock, and no matter how industrious the farmer may be, no matter how successfully he may, for a time, work his land in trying to produce vegetable food for his country, if his live stock farming is a failure, a time will come when the vegetable food returns will automatically decrease through shortage of capital to replace his losses in live stock and to supply nourishment for his land. Sooner or later he has of necessity to leave the farm. The man's capital value to the nation has gone, and, what is worse, he leaves the farm at its minimum power of production in vegetable and animal food. There are hundreds of such cases. In times of peace such a state of affairs is most serious, but it is out of all proportion in times of war. Let us therefore hope that the present Government, while speeding up Britain's output in vegetable food, will not overlook the equally important question of how to speed up Britain's output of animal food products.

Kingston, Derby.

Uses of Wool.

Cotton, silk and flax can be compelled to take the forms desired by the manufacturer, but wool will only go its own way, and requires "humouring." There is no sharp dividing line between the various classes of wool. Many qualities of merino, for example, can be made into either woollen cloth, worsted coatings, worsted stuffs for dress goods, or flannels. Leicester wool or Colonial cross-bred, when combed, produces a "top" which is available for almost any purpose except the production of woollen goods, whilst the "noil" or short wool, obtained from the same process can only be used, according to its fineness, for the manufacture of fancy woollen goods, flannels, blankets, or hosiery. Merino wool, when combed, produces a proportionately long wool or top, suitable for the manufacture of the finer grades of worsted coatings, cashmeres, and Italians, but the noils are only available for making fine woollen-faced cloths, fine flannels, and fine felt hats.

It is an old saying that "you cannot make a silk purse out of a sow's ear." It is equally true that a lustre Orleans piece cannot be made out of pure merino wool, or worsted coating out of Lincoln hog. To take pure lustre as an example of the way in which wools can be used, the chief sources are mohair and alpaca, which can be supplemented by the wools of Lincoln, Yorkshire, and Nottingham. It must be noted in this connection that white and delicate colours are made out of mohair and English lustre wools, whilst blacks, browns, and mélanges are made of alpaca, llama, or other goats'

Leaving the range of pure lustre, there is a large production of goods known as demi-lustre, made of such wools as Irish, North, Kent, or Romney Marsh, etc., and Colonial cross breds, which make serges, cords, reps, poplins, various fancies, and lastings. Amongst these might be mentioned the coarser kinds of demi-lustres, such as Gloucester, Oxford, Warwick, and Northampton, and sometimes Devon and Cornish. These are manufactured into camlets, lastings, braids and buntings.

Next in order comes the mixed breeds, which form a very large proportion of the growth of the United Kingdom, i.e., wools which contain in a greater or less "In Great Britain, up to 1914, on an average 4256 degree a cross of the Scotch Blackfaced or mountain farm animals died weekly from non-scheduled diseases, which means approximately 221,000 per year. To-day, pure Blackfaced usually finds its way into carpets, but the various crossbreds are accounted for by the manufacture of moreens, damasks, and Scotch tweed

mixtures.

To the same class belong the Cheviots and the superior classes of Welsh and Irish mountain wools, which are made into goods of quite a unique character. Large quantities of the so-called Cheviot goods, however, are produced from the cross-bred wools of Australia and Buenos Aires. Some of these are known as Cheviots, tweeds, Scotch fancy suitings, Scotch fingering yarns, etc.

There remains, however, one market for Southdown which it is not likely to lose, namely, hosiery, for it possesses an elasticity and springiness which is not to be found in any other wool. It is principally grown in Sussex, Wiltshire, Hampshire, Shropshire and Dorset, but the Southdown blood is to be found in various proportions of admixture in almost every country in the United Kingdom United Kingdom.

produced from the cross-bred wools of Australia and Buenos Aires. Some of these are known as Cheviots, tweeds, Scotch fancy suitings, Scotch fingering yarns, etc.

In the olden time the finest wool to be obtained in this country was the English Southdown, excepting, of course, the very fine Saxony wool which was largely imported into Bradford in the early part of this century. Both English Southdown and Saxony wool has now been supplanted for dress goods purposes by the enormous imports of Colonial and Buenos Aires wools.

United Kingdom.

There is no doubt that, during the life of the present gosition. It gained largely in popularity at the time when the public was becoming tired of the lustrous and the chief command of the market. It is soft to the touch, will take the most solid and the most delicate colours, and is available for the heaviest woollen cloths, the lightest of ladies' dress goods, and the smoothest of linings.—The Farmer's Gazette (Dublin).

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Period. Gr. BRITAIN. Week ended April 13		Anthrax			ot- Iouth ase.	Glan	ders.†	Parasitic Mange. ‡			Swine Fever.			
		Out- Ani- breaks mals.	Out- breaks		Out- breaks (b)	Ani- mals.	Out- breaks (b)	mals. Scab	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.			
		4	5			3	3	1	196	19	85	13		
Corresponding week in	{	1917 1916 1915		15 18 16	15 19 18					45 41 37	87 93 85	9 4 1	69 125 93	25 396 360
Total for 15 weeks	, 1918			100	115			13	33	2052	4033	225	249	96
Corresponding period in	{	1917 1916 1915		199	237 235 265	1	24	10 20 9	19 59 14	1110 1095 ‡105	2356 2674 ‡228	336 157 137	680 1289 1097	251 4007 4550

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive firmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—Essex 1, London 2 ard of Agriculture and Fisheries, April 16, 1918 Excluding outbreaks in army horses. a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, April 16, 1918

IRELAND. Week ended	April 6				Ī			Outbreaks 3	6		
Corresponding Week in	1917							1 4	3 12	9 18	62 97
Total for 14 weeks, 1918		1	1					49	141	6	28
Corresponding period in -	1917 1916	2 1	2 5	:::		1	1	16 26	169 184	67 77	429 391
	1915	1	1			•••		13	180	69	430

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 9, 1918.

IR ELAND. Week ende	A April	13			 			Outbreaks 6	8	1	1
Corresponding Week in	1917 1916 1915				 	 "ï			5 6 22	10 8 9	43 32 35
Total for 15 weeks, 1918			_1	1	 			54	144	7	27
Corresponding period in	$\begin{cases} 1917 \\ 1916 \\ 1915 \end{cases}$		2 1 1	2 5 1	 	1 1	1 8	16 28 18	174 190 202	77 85 78	472 423 465

Department of Agriculture and Technical Instruction for Ireland. (Veterinary Branch), Dublin, April 15, 1918 lore.—The figures for the Current Year are approximate only.

RECORD VETERINARY

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1555.

APRIL 27, 1918.

Vol. XXX.

BOVINE DISEASES.

Bovine diseases are now economically more important now than ever before; and their importance will continue certainly for several years, possibly for much longer. Much work has been done upon them in recent years; and not a little study is now required from the practitioner who desires to keep

abreast of the times regarding them.

Apart from specific diseases, two great classes of bovine affections are of prime importance in practice—obstetrics and digestive disorders. Each in itself forms a very wide field, much developed in recent years. Take obstetrics first. The management of parturition cases, which, in the hands of many practitioners a generation ago left much to be desired, has greatly improved; but this is not all. The whole subject of obstetrics, especially as regards questions of sterility, has immensely widened and deepened during recent years, and now forms a speciality in itself. New knowledge has been gained regarding it; and many of the latest views advanced are still controversial and require careful testing. No member engaged in cattle practice can afford to neglect a thorough study of its modern developments.

Bovine digestive diseases we all know to be one of the most difficult studies for the clinician in veterinary medicine. With the exception of a few wellrecognised conditions, their differential diagnosis is quite as obscure as that of the equine "colics." For many years this question hardly received the attention it deserved from a large number of practioners; and probably one reason was the poverty of the then existing literature upon the subject. Matters have improved in this respect; and a fair amount of literature is now available—some in translations of foreign works, and some of native authorship, by means of which the clinician can approach the study of this complex subject. Many are already studying it; others should lose no time in doing so.

The supreme importance of tuberculosis, which led many clinicians to take up microscopic technique a few years ago, needs no emphasis. Johne's disease and Contagious abortion are also likely before long to throw fresh responsibilities upon practitioners. Both will probably be scheduled at the earliest opportunity, as they certainly ought to be; and in that case the prevention of their dissemination by the sale of infected animals is certain current in British practice.

There was a time—not so very long ago—when many veterinary surgeons were decidedly empirical in their methods of cattle practice. That period is now over; and, in view of the increased economic importance of the subject, it is well that it should Bovine diseases must now receive scientific study, and very few veterinary surgeons now fail to recognise the fact. For scientific and economic reasons alike, they fully deserve all the attention that we can bestow upon them.

OUR COUNCIL MEETINGS—SOME COMMENTS THEREON.

By W. FREEMAN BARRETT.

It may be asserted, I think, without fear of contradiction that the dignity of any governing body is lowered by attacks on the chair, or conflicts between the chair and any reasonable member over whom he, as chairman, presides; and that accordingly, my assertions at the last meeting of the Council in the ordinary circumstances lowered the tone of the discussion, and of the assembly, and, per se, are to be regretted. It may further be stated without any question, that the tone and dignity of the proceedings of the governing body of any profession or body corporate reflect greatly the intellectual standpoint to which that profession or body corporate has attained. Assuming the correctness of the above premisses, and they cannot reasonably be denied, I cannot entirely pass over in silence the observations directed to me by our President at the last Council meeting, because if I were in error not only did I rightly incur his rebuke, but I used unwisely the trust which has been placed in me for many years by those who were good enough to vote for my election to the Council. On the contrary, if the President were in error my strictures upon his conduct in the chair were just and necessary, and upon him should be visited the disapprobation of those who sent him to the Council chamber, and of those who elected him head of his profession. My readers will agree, I am sure, that I have quite fairly stated the alternate deductions. May I add, in order not to be misunderstood, that I entertain the kindliest feelings towards our President; that I appreciate his labours and energy on behalf of the profession as keenly as any of his to be one of the chief features in any legislation other colleagues, and that he will commit a grievregarding them. This will mean more work and ous error if he even inclines to the belief that I more responsibility for practitioners; and very desire to attack him personally; on the other hand, probably it may entail more study also, for the I am of opinion that his references to myself were regulations may impose diagnostic tests not yet wrong and in had taste, and I hope to prove this by an analysis, an impartial one I trust, of the

proceedings of the last Council meeting. In effect, I assert that he erred not intentionally, but because he failed to understand and give effect to the true functions of the chair.

This subject of controversy with the chair is of considerable importance to the profession. By thoughtless men it may be brushed aside as of no concern. Observe the leading article in last week's Veterinary Record, where the whole subject—so far from being intellectually treated, is disposed of in a few lines of thoughtless personal invective, as though there were merit in that, or that such matter were sufficient for intellectual minds. think, I am the chief delinquent in regard to this matter, I am bound to admit that, why this is so will appear later on, but in justice to myself I must mention that I am not entirely alone. There was an ill-tasting episode when our President was last re-elected, with which I had not the smallest con-I felt extremely uncomfortable while it lasted and regretted the necessity for it very much. I merely mention this to show that the matter, however unpleasant, must be fearlessly dealt with, unless the dignity of the whole profession is to

The subject is not free from difficulty, and may easily be misunderstood unless fair consideration is given to it. Obedience to the Chair is quite rightly recognised as one of the first principles of debate, but as there are exceptions, they say, to every rule, there may be and sometimes should be exceptions to this.

I think as a preliminary to the main question, and for a proper and fair appreciation of it, we may wisely consider the main obligations and duties which attach respectively to a member or a governing body and to the chairman who presides over These observations refer to governing bodies generally, and are not specially applicable to or directed at our Council, and hence the president, per se, is unaffected, but is merely referred to in his official capacity as the chairman of a governing body.

I will endeavour, I hope quite fairly, to define roughly the duties and obligations which a member of an elected body owes to the chair. First: the member owes respect to the chairman in virtue of his office; secondly: he should endeavour generally to assist him in his work and in the conduct of the business, and give him the benefit of his services and ability in all questions arising; thirdly: he should protect him from unfair attack by other members; fourthly: he should generally accept his decisions on points of order, and his rulings in all matters before the governing body. generally in this last connection has especial significance to which I desire to draw attention. were so I am in error, and owe to the President an individual member. I therefore must prove this point or merit condemnation. obeyed. Whither does the assumption lead you? | those around him, the services of men in the capacity

If the assumption be true, you will infallibly be led on to firm ground where your footing is secure and your position safe; if the assumption be false you will by deductions reach a morass of treacherous soil emitting foul odours and be engulphed therein. The asseveration therefore is assumingly correct, but a chairman is a man, and man is universally fallible and commits error; and man is often unjust and may acquire tyrannical desires, and endeavour by arrogance or the love of power to subdue those around him. Witness Germanism at the present time and you need no further instance of the truth at any rate of the above statements. Assume the existence by heredity or development of one or other of the above vices; opposition would become a virtue, subjection a weakness, even criminal folly. There are therefore cases in which obedience is un-

A less extreme case may be given by way of example. Man being fallible may totally misconceive the functions of the Chair, and may be so obsessed with his own opinions as to seek to suppress the views of those over whom he presides. The member thus treated must either abandon his or his elector's distinct right—a right which his election gives him, or fight for it by assailing his oppressor. Can there be a doubt as to where duty would lie, or the course any man of fearless courage would pursue? I think not; and would it not be an act for the best in difficult circumstances?

Further, a presiding officer may forgetfully, intentionally, or by nature so inclined (being assured of certain support around him), heap ridicule or sarcasm upon a speaker whom he does not like, or who may wisely or unwisely often be opposed to him in his views. In this case the speaker, if implicitly obedient, would lose his self-respect and dignity, and those wanting courage around him would be deterred from upholding the cause they even deemed just.

These instances are sufficient to show whither cringing obedience would lead you. As the end would manifestly result in injustice and wrong, the assumption is false, and implicit obedience cannot in all cases be justified. I think I have proved this one point, which is all I am now attempting—that implicit obedience, so far from being essential,

would even in extreme cases be a positive wrong.

Now as regards the duties and obligations of the Chair to those over whom he as chairman presides. May I just repeat, although surely it is not necessary, that I am treating this aspect of the question on the broadest lines, without any reference whatever to any individual chairman; they are in The term my view duties and obligations which attach quite decial signimention. It with the country of the coun

might be said, I think it would be an error, that in all over whom he presides in order that he may in all cases the chairman should be obeyed. If this retain the confidence, esteem and respect of each retain the confidence, esteem and respect of each individual member. This should apply even to those from whom he differs on some occasions, or In order to test the question whose peculiarities of thought, mind, and conduct let us assume that the foregoing statement is correct. That in all cases the chairman should be Secondly: He should seek, with the assistance of

or capacities for which their ability or mental training best fit them. Thirdly: He should generally discourage the perpetuation of minor honours and offices, which curiously so many men seek, in order that those who ultimately hope to succeed him in the chair may obtain some experience and training for the higher duties which in the ordinary course they will be called upon to fulfil. Fourthly: He should have no leaning or bias towards any dominant or other section of the body over which he presides. absolutely impartially, and should in regard to the permissive powers with which he is endowed, exercise them with strict impartiality, and endeavour, always, to elicit and respect the reasonable views on any subject of those around him. Sixthly: He should avoid impatience of the views of others, nor impute unreasonableness or motive to those who may, rightly or wrongly, hold views contrary to his own.

I don't pretend to have dealt with this aspect of the subject fully, time and space will not avail for this, but I have, I think, sufficiently defined the respective duties and obligations to allow of the preliminary aspect of the matter being grasped. Manifestly, mutual obligations and duties prevail. Each must respect the other, and each may justly be jealous of his rights and privileges. It may be put allegorically and succinctly, yet clearly, by saying that the chair to the governing body is in loco parentis; as the parent by nature, social custom, and unwritten law is entitled to the respect, esteem, and, for the most part, to the obedience of the child; yet in regard to many parental injunctions disobedience on the part of the offspring would be regarded as a virtue; similarly in regard to the chair, obedience is no doubt the settled rule, and should be departed from only in those cases in which obedience would involve the dignity and selfrespect of the member attacked, or of the assembly of which he forms part. Will my readers please understand that in dwelling at some length upon this aspect of mutual and respective obligations, I am not for one moment, so far, either admitting error on my part, or attributing it to others. I am only clearing the air for the understanding of a subject which is certainly not free from difficulty, and may be from some doubt. The question of error can only be determined as a fact, from an examination of the language indulged in, and the circumstances in relation thereto. Clearly, too, we have to avoid the very common belief amongst the untrained, that personal retort is argument, or that sarcasm and cynicism constitute proof of truth.

Before I close this first article I want to say a word or two further upon the leading article which appeared in The Veterinary Record of the 13th inst. upon the subject now under discussion. I want to avoid harshness of expression, because I know the gentleman who wrote that article would not intentionally be discourteous or unfair to another tioned are encountered in the excrements of cattle member of his profession. He has, I think, thought and other animals, and consequently infection of lessly-maybe unwisely-accused me of wasting the newly born is accomplished with facility. The the time of the Council, and of holding views of an most frequent routes of infection are the digestive unreasonable nature. It may be so, of course, men tube and the umbilicus. More rarely infection may

are fallible; but in any event, I have had twenty years of Council work, and for many years have been engaged in a mental atmosphere to which he has never probably even aspired. To say the least of it, I am entitled to retort that under such circumstances prudence in judgment would have exhibited greater wisdom. This gentleman must have thought my views were unreasonable and absurd, and that my conduct to the chair was a gross breach of etiquette, otherwise he would not have written as he Fifthly: He should rule did. If this were so, he had an easy case to expound, and a convincing argument to adduce; and clearly, having regard to his position as the leader writer of The Veterinary Record, a periodical which has acquired, and rightly acquired, some influence in the profession, it was his essential duty to show by argument, or an intellectual treatment of the subject how erroneous my views were. May I suggest to him, maybe for future guidance, that to an intellectual mind personal retort or abuse proves nothing, and is anathema to the really trained journalist.

With these observations, in view of your limited space, I will close the first article by asking permission in a further paper to analyse the proceedings of the last Council meeting, with a view to apportioning the blame in accordance with the principles and deductions herein enumerated and expounded.

[We regret that we cannot see our way to accede to Mr. Barrett's request for further space in our columns. Like Mr. Barrett's hypothetical Chairman, an Editor has duties-the first of which is to his readers. The Council met to conduct the business of the profession-not for an exhibition of dialectics; and we consider that the discussion in question was "needless and wholly unprofitable." In the matter of wisdom and of etiquette we sit humbly to learn at the feet of Mr. Barrett.]

ABSTRACTS FROM FOREIGN JOURNALS.

RECOMMENDATIONS AGAINST WHITE SCOUR-ESPECIALLY OF CALVES.

The following is a summary of an article by A. T. Kinsley in The American Journal of Veterinary Medicine for 1917.

White diarrhoa is a very mortal disease in recently born animals, the principal symptom of which is an abundant diarrhoea with white or whitish dejecta. The disease attacks all animals, but is most common in calves. It has been studied in Denmark, Holland, Germany, Belgium, Italy, France, England, Ireland, and America. All investigators agree that it is a bacterial disease, and the etiological rôle has been attributed to the following microbes: - bacillus abortis, b. coli communis, b. ærogenes, b. paracoli, b. pyocyaneus, b. proteus. b. bipolaris, and various pyogenic micrococci.

The b. coli communis is the most common bacterial invader in these cases. All the bacteria mentake place through other channels, such as the respiratory and the uro-genital tracts.

Knowing the causal agents and the course which the infection follows, it is not difficult to recognise the existence of the disease. The following measures are sufficient to combat it :-

Sanitary measures.

- 1. Convenient disposition of yards, etc., with a good drainage.
- 2. Construction of buildings of a form which may easily be cleaned and kept clean.
- Provision of clear and potable water.
- The cow should be maintained in a clean condition, before and for some time after parturition.
- 5. The place where the cow is kept should be cleansed and disinfected before the parturition. and, if used for the occupation of the cow and
- calf, from one to three days afterwards.

 6. The lodging of the calf, if separated, should be kept clean and disinfected till the calf attains the age of one month.
- 7. The possibilities of infection of calves that suck are diminished by keeping the mammæ and teats of the cow clean.
- 8. If the calf is hand-fed, the hands of the feeder should be kept free from infection, to prevent infection of the milk.
- 9. Quarantine of all infected animals.
- 10. Immunisation of the cow just before parturition by the injection of two or more doses of mixed vaccine.
- Immunisation of the calves with mixed bacterins, on the first day of life.
- 12. Give the colostral milk of another cow.
- 13. Appropriate food at suitable intervals.
- 14. Persistent employment of intestinal antiseptics. 15. Isolation of the animals at the first indication of the disease.

Curative measures.

When the infection has already declared itself, the following measures are advised

- 1. Production of temporary immunity by polyvalent This method does not always give serum. good results.
- 2. Immunisation by mixed bacterins. This method has been proved to be of little value in acute cases.
- 3. Employment of intestinal antiseptics, and, when they are indicated, of laxatives, stimulants, or other medicaments.
- 4. Careful regulation of the diet.

practice formerly in use. The recognised utility of the agent in the sterilisation of the skin may give good service in the first treatment of sterile wounds, because, applied around the lesion, it may secure it from septic germs which might be transported to it from the surrounding skin.

Is the application of tincture of iodine upon the wound itself useful? That it may sometimes be used with advantage, on account of its slightly caustic and histiogenetic action, is known, But if it is efficacious sometimes to stimulate torpid tissues, other agents, such as hydrogen peroxide and the hypochlorites, are much more adapted for the purpose; while, on the other hand, tincture of iodine may cause bad results.

Often when the lesions are of minimal seriousness, the irritation produced around them by tincture of iodine may greatly exceed the importance of the lesions themselves. At other times the liberal application of tincture of iodine, not upon the margins and circumference of the wound, but upon its surface, has caused a superficial necrosis with the formation of an eschar or thin layer of coagulated albumen, under which germs have an excellent opportunity to develope.

Sometimes the dermo-epidermites caused by the microbes of wounds developing upon skin damaged by antiseptics, and especially by tincture of iodine, even lose their local character, and cause diffuse or secondary lesions at a distance.

Further, the repeated chemical irritation of tincture of iodine upon the margins of wounds sometimes renders them hard and callous and impedes extension of epithelium. It must also be remembered that tincture of iodine, in contact with air, not long after its preparation, forms hydro-iodic acid, the irritant effects of which are much more pronounced than those due to fresh tincture of

The author adds one or two other reasons, such as the present cost of iodine, potassium iodide, and alcohol, especially the first two, in support of his proposal to reduce the use of tincture of iodine to within the limits beyond which its advantages are problematical.—(La Clinica Veterinaria).

W. R. C.

A NOTE ON DOURINE.

By Colonel H. T. PEASE, C.I.E., V.D., I.C.V.D., Principal, Punjab Veterinary College, Lahore.

(Continued from p. 430)

Tincture of Iodine is employed largely, and perhaps excessively, in the treatment of wounds both in man and animals. Artom, an army medical officer, writing in Policlinico, forecasts a limitation of its use, and advances arguments in support of his views.

For years past, painting with tincture of iodine or with iodised benzol has been universally adopted in major surgery as the sole preparation of the operative field, in substitution for the complicated of the disease is that given by the German veterinarian, Ammon, in 1796, and again North Prussia, affecting marces and stallions. It permates the horse to the King of Prussia, caused it to wards (1803), Ammon and Dickhauser gave an excellent wards (1803), Ammon and Dickhauser gave an excellent the malady disappeared from Prussia, but extended northwards, causing much loss in Lithuania, and return-operative field, in substitution for the complicated

believed to have been seen in Southern Russia before this period, and Renner mentions that it prevailed among the horses in the Imperial stud at Skopin and in the Government of Kazan, Pottchinkoff, and Nischnei-Novgored, where it was studied by Kersting, and to which it is said to have brought by English stallions. Doubts have been entertained as to the reliability of

Renner's statement.

In 1815, Woltersdorf, veterinary surgeon of the Bomberg District, Austria, observed it in the neighbourhood of Wanhau; and Havemann, Director of the Veterinary School of Hanover, remarked it in 1816 in a stallion in several mares, which, in their turn propagated the malady; so that it prevailed in that country until 1820. In 1817-18, it again showed itself in Lithuania and reappeared in 1819 towards the Austrian frontier, at Oberschliessen, district of Liebschutz. In 1821 near Steiermarck and Pharau, it attacked a large number of animals; it also broke out in Silesia and at the stud of Lembus. In Styria, it pursued its course as a veritable

epizooty.
In 1826, it re-appeared in Silesia in a small number of animals and in benignant form. From 1827 to 1830, it caused a great mortality in Bohemia; and in the spring of 1830, it appeared for the first time in Switzerland, in

the Canton of Berne.

In 1833, it again broke out at Oberschliessen, in provinces of Liebschutz and Oeltz in Upper Silesia: in 1836 it was particularly severe in the latter province, in the districts of Striegau, Oeltz, Grotthau, Beissz, Fauer and Friestadt.

Pomerania was visited with benignant form in 1839, and in 1840 it re-appeared in Silesia on an extensive scale, and in a malignant form, in the districts of Bartenstein and Schippenbeif; and again in 1841, it was seen at Gumbinnen and Lithuania. In Wurtemberg

some mild cases were observed.

The disease had now assumed such serious proportions and was causing so much alarm in the stud-farms and among private horse-breeders, that several legislative enactments were adopted and enforced: at the same time veterinary surgeons were beginning to devote their energies towards investigating its nature and the most efficient prophylactic measures to be devised against it. These checked its progress in Germany, and the cases that subsequently occurred were less

In 1847, it was reported in Algeria by the French Military Veterinary Surgeon, Signol, who saw it in the province of Constantine, and who described it as an "Epizootic paraplegia" that had appeared among the horses of the Rigas tribe. Not aware of the existence of the malady on the European Continent, he designated it by one of its chief symptoms, he also mentioned that the Arabs had long been acquainted with it, that it appeared in a serious form every fifteen or twenty years, and that one of these crises—the one to which he was a witness in 1847, destroyed six hundred horses. The disease has continued in Algeria. General Dumas, author of the "Chevaux du Saraha," alludes to the frequency and ravages of the disease among the horses of the tribes in the province of Constantine; and Bonjol, another Army Veterinary Surgeon, reports it as causing great havoc in the Bhiras tribe. In 1852, it carried off a large number of mares in the circle of Bou-Arreridj, and in 1853, it prevailed in the circle of Setif.

It was not until the spring of 1851 that in France, among the brood mares in the plain of Tarbes, it for the first time attracted the attention of French veter-inary surgeons; it was chiefly studied by Roturior and Louchard, Military Veterinary Surgeons, and by an official commission. The malady was located in thirty-

Such is the early history of the disease; but it was In December of that year, Louchard recognised it in 127 mares which had been put to Government stallions, and to stallions belonging to private individuals. The the other 27 were infected by private stallions. Out of the total number 52 died. It had nearly ceased in the following year. In 1852, the disease appeared in the Valley of Lourdes, and near Argeles; and Profs. Yvart and Lafosse, of the Veterinery School of Toulouse. and Lafosse, of the Veterinary School of Toulouse, undertook, by a series of experiments, to demonstrate its contagiousness. It re-appeared in some mares and stallions at Tarbes in 1856, 1857, and 1858, and at this period it was studied by Reynal, Director of the Alfort Veterinary School. It also manifested itself again in

Trelut, Veterinary Surgeon to the Stallion Depot at Tarbes, in two able memoirs on the subject, traces its advent to the importation of a stallion from Syria in 1851, and again by two other stallions from the same country in 1861. He asserts that it was perhaps perpetuated in the South of France, because it there found itself in a climate resembling that of Syria, where it nearly always prevails; and also because no steps were

taken to eradicate it thoroughly.

The disease has been carefully studied in France by St. Cyr. Trasbot, Laquerrierre, Beuise, and Nocard. From time to time dourine is imported into the Basses Pyrenees by mares which have passed the summer in the mountains in the pastures and which have been covered by infected Spanish stallions. According to Schneider and Buffard it appears on the Spanish frontier every year.

In 1875 to 1881, douring was found in the Hungarian stud and was studied by Prof. Von Thanhoffor of Budapest and it has recently been prevalent in Austria and

parts of Germany.

An outbreak occurred in the De Wett country of Illinois in 1882, but its nature was recognised only in 1886, by Dr. W. L. Williams. It is reported to have made great ravages.

In 1892 there was an outbreak among the breeding horses in North Western Nebraska, and it again appeared

there in 1899.

In 1901 the infection re-appeared with increased vigour, this time in the Pine Ridge and Rosebud Indian Reservations in South Dakota where its eradication was extremely difficult, owing to the wildness of the country as well as of the horses, and the fact that many horse owners would try to conceal them from the inspectors. In 1903 it was reported in the Van Buren County, Iowa. Another outbreak was discovered in Taylor County, Iowa, in 1911. The diseased animals together with all exposed stallions were quarantined by the State and the disease eradicated. In July, 1912, it appeared in Eastern Montana, the outbreak being more extensive than any of the previous ones, involving the two Indian reservations in North Dakota and South Dakota, and a force of twelve Federal veterinarians assisted by State representatives were at work on the disease, which was well in hand in 1914.

At the present time it occurs in Europe, in Spain (particularly in Navarre), and to a less extent in Hungary and South Russia; also in Turkey, which imports many horses from infected districts, also in Rumania where it has recently been studied by Marek, also in

According to Laveran and Mesnil the disease exists along the whole south littoral of the Mediterranean Sea, in Morocco, Algeria, Tunis, Tripoli, Syria, and probably throughout Asia Minor and in Persia.

It loccurs in India and in Java, where it was described by De Does as occurring in the Government studs at

Soemedang.

official commission. The malady was located in thirty-one communes around Tarbes, containing 1874 mares. Canada, has since prevailed in certain districts of

Southern Alberta and in one locality in South-Western Saskatchewan, and its true nature has been demon-strated there by Dr. Watson, after having been first discovered in 1904 by Chief Veterinary Officer, Burnett,

at Lethbridge.

In India no reliable history is available, but from enquiries made from breeders and from the information gained by consulting available records, it may be con-cluded that it has been present in the country for many years. Such of the earlier records of the Horse-breeding department as are available contain records of cases which were obviously dourine, and year by year stallions were destroyed which presented marked symptoms of

the disease.

In 1885-1886 it was recorded in the casualty list of the Annual Administration Report of the Horse-breeding Department that No. 1628 Badminton H. B. E. died from "Mal de coit." This is the first recorded diagnosis of the disease to be found in the records, and it seems extraordinary that its contagious nature was not recognised and that it did not seem to have attracted any attention whatever. Long before this time, and ever since, cases of chronic disease of the sheath and penis, paraplegia, loin disease, and the like, which were most likely dourine, have been recorded in casualty

Judging from such history of the subject as is avail-ole, it is very probable that dourine was introduced able, it is able, it is very probable that dourine was introduced into the studs many years ago by foreign stallions, and that it was the cause of many of the recorded cases of "Kumri" or paraplegia among breeding stock. It continued up to the year 1904 owing to the use of infected stallions and mares in certain districts in the United Provinces, especially Bulandshahr, Aligahr, Agra and Muttra, part of Gurgaon, and those parts of the Meerut District near the old stud at Hapur. It does not appear to be an indigenous disease in the Punjab, Baluchistan or Bombay, but it has from time to time been carried to or Bombay, but it has from time to time been carried to districts or stands in these provinces by the transfer of diseased stallions to them from infected areas in the

The true nature and method of spread of the disease in India was not suspected until 1902, and the fact that it is a contagious malady spread by coitus was not gen-erally recognised. Fortunately, however, a stallion was generally thrown out of work when the symptoms were marked; hence it was not spread so rapidly as would otherwise have been the case. The unfortunate thing has been that a certain number of infected stallions remained at work and mares affected were not dealt with, so that the malady continued to spread and consequently the losses from deaths and sterility have been

very considerable indeed.

When the disease was definitely diagnosed in 1902, and its true nature and importance realised, it was found that many stallions had for some time been suffering in various parts of India and that some districts had long been badly infected. Twenty stallions had been destroyed for dourine from 1899 to 1901. In 1902 to 1904 fifty-seven Government stallions as well as

under observation. Such stands, therefore, received a constant supply of infected horses, and in consequence many mares in the neighbourhood became diseased. It was from such stands, too, that infected animals were sent to other districts for change of climate. It wasa common practice to send an ailing stallion from a damp to a dry climate, in order that he might benefit from the change of air, and undoubtedly the disease was spread in the Punjab and Dera Ghazi Khan District in

this way.

As to the priority of diagnosis in India as above stated the occurrence of dourine was recorded in the reports of the Horse-breeding Department in 1885. Lingard claims that certain symptoms exhibited by a country-bred mare pointed to the fact that she might be the subject of covering disease, and that in July, 1901, the subject of covering disease, and that in July, 1901, he recognised a case in an Arab stallion: but he did not confirm the diagnosis, nor did he demonstrate the causal parasite. It is significant, however, that at this time a

confirm the diagnosis, nor did he demonstrate the causar parasite. It is significant, however, that at this time a considerable number of cases existed among the stallions belonging to the Horse-breeding Department, but nothing was said of the importance of dealing vigorously with the disease.

As a matter of fact it was not until we had definitely diagnosed it in stallions at the Punjab Veterinary College, had demonstrated the presence of the trypanosome, and had experimentally transmitted it by coitus and inoculation, that there was any certainty as to the existence of the malady in India. The report submitted to the Government of India in 1902 drew attention to the great importance of the subject (1) as it seriously affects the horse-breeding industry, being contagious, and leading to numerous deaths and to sterility both in the mares and stallions, (2) as it is very difficult to detect and (diagnose, especially in the early and late stages, (3) because it is very insidious in its attack and usually chronic in its course, the affected animals being capable of themselves infecting others although at times capable of themselves infecting others although at times

In the year 1903 I was deputed by the Government of India to ascertain to what extent dourine existed and to suggest measures for dealing with it. An extensive tour in the districts known to be infected was made and as the result of the measures taken it was stamped out in those districts. All infected stallions were deout in those districts. All infected stallions were destroyed, and no case again occurred in them until 1916, when a few cases were detected on the borders of Baluchistan in the Dera Ghazi Khan District. At the same time it came to light that dourine had become wide-spread in Baluchistan, and eight or nine Government stallions had been attacked, some of them continuing to serve for a long time before it was suspected, and consequently many mares must have been infected by them. It is unfortunate that Baluchistan was reported not to be an infected district and was not visited in 1902. visited in 1902.

SYMPTOMS.

Some authors adopt an arbitrary division of the symptoms of this disease into three phases, i.e., cedema-

anumber of private animals, both horses and mares, were found suffering and destroyed. In addition to these a number of infected stallions have been castrated and sold by auction. No records of the disease amongst mares and stallions, the property of private owners, are available.

The stands in the Bulandshahr and Meerut Districts near the Happur Stallion Depot at Babugahr have been constantly infected for many years, and considerable numbers of stallions have been lost at Cherawak in Bulandshahr. The reason for this is that when a horse had been attacked and had come into fair condition again, he was often sent to the nearest stand to the depot, so that he might be easily inspected and kept

experience he has had of the malady. In some cases the symptoms may be so slight as to easily escape observation, and no definite course can be laid down.

I think that we may profitably divide the symptoms exhibited in the course of Dourine into those referable to the generative organs, the lymphatics, the skin, and to the nervous system, and may, for the sake of convenience of description, divide them into:—(1) Changes in the genital organs and structures in close apposition. (2) Cutaneous lesions. (3) Lesions of the central nervous system.

In carefully observed cases in India they generally follow this order; but it is obvious that in some cases (2) may appear without (1) having been discovered owing to no marked external swelling having taken place, and (3) may be the first symptom seen, the other two having escaped notice. It is quite a common thing, especially in Indian country-bred horses, for the symptoms of (3) to be slight or not noticed: and this appears to be the case in other countries as well. Paralysis occurs as a rule only in the severe cases.

Watson, writing of the disease as it occurs in Canada, remarks that the regular evolution of the disease has been the exception rather than the rule, and he thinks that the following notes may serve to put the diagnostician on guard.

"In the case of a mare, a stabled animal, and, therefore, under daily observation, the first visible signs of disease were symptoms originating from the central nervous system, which belong, according to the arbitrary division, to the 'third stage.' These indications were followed by the first stage, namely, tumefaction of the genitalia, sexual excitement, etc. The first appearance of symptoms belonging to the second stage, namely, patchy infiltrations of the skin—the so-called plaques, were concurrent with the nervous manifestations. and have later appeared when only a trace of the 'first' and 'third' stages remains.

In the case of an experimental animal the disease ran an acute course, and terminated fatally 139 days after infection. Nervous symptoms predominated throughout.

In the case of another experimental animal, Dourine parasites were present in the vaginal mucus, at irregular intervals, from the 85th to the 229th day after infection, yet only at the end of this period have there appeared any visible signs of disease, these were more or less indefinite, and limited to a slight tumefaction of the vulva and a somewhat swollen, anemic, vaginal mucous membrane.

These may be extreme cases, but others can be cited. It is only necessary to emphasize the fact that in Canadian Dourine symptoms may appear shortly after, or not for a very long period following infection; or that they may abate or disappear for equally long periods at any stage of the disease, and lastly, that loss of co-ordinate locomotion or other signs of nervous derangement may be the first and only signs of the disease detected."

This is generally in accord with the recorded views of European observers. Reynal states that the swelling of the sheath and enlarged inguinal glands may remain the only symptoms visible for 8, 10, or 12 months. But patches may appear during any of this time. Nocard and Leclainche say that in some animals the evolution of the disease appears to stop for a considerable time, especially in young and well conditioned animals which are rested and well fed. Fleming states that in young, vigorous, well kept horses the malady may continue localized for a very considerable time.

localized for a very considerable time.

Schneider and Buffard speaking of the Algerian type state that they are led to the conclusion that symptoms may actually disappear and remain absent for a considerable time and re-appear. My own observations in India tend to confirm this.

Maresch has remarked that the examination of a horse in the paralytic stage may then show only the paralytic symptoms, and that the re-appearance of patches or ordema afterwards will lead to the supposition that they are secondary and not a primary symptom, whereas they really are primary. In the second case quoted, although paralysis was the most prominent symptom others were apparently present. In the third case the symptoms appeared in the right order although delayed.

In India we have noted no wide divergence from the symptoms described by Schneider and Buffard as occuring in Algerian Dourine; with the exception that the trypanosome appears to have had its virulence considerably modified, so that the disease produced is somewhat less acute and the number of recoveries greater. In carefully observed experimental cases it has been found that in naturally acquired cases evolution of the disease in the stallion generally commences by changes which are limited to the genital organs.

(To be continued).

The fallacious Milk Standard.

The unusual feature in this case is the very definite evidence of Mr. Wm. Robb and Dr. Drinkwater.

"On Wednesday, the 10th inst., Sheriff-Substitute MacKenzie, Glasgow, heard evidence in a prosecution at the instance of Dr. Patterson, Hamilton, on behalf of the Lanark County Council, against Mr. Alex. Morton, Stepps Farms, Stepps, who was charged with having on 30th January last sold sweet milk deficient in fat to the extent of 9 per cent., the figures being, fat 2.73; nonfat 8.47.

Dr. Patterson gave evidence to the effect that the milk in question could not be the genuine milk of a herd of cows. He had known milk of single cows falling below the figures, but never the mixed milk of a herd. The County Council had carried out certain experiments which he produced, showing that the mixed milk of a herd was invariably above the standard. He also produced the results of one county council experiment, tending to show that milk in course of distribution from the cows to the consumer did not vary materially in composition. Mr. R. M. Clark, public analyst, Glasgow, proved the official analysis, but was not examined or cross-examined as to whether the milk could be genuine or not.

For the defence, Mr. Morton and a servant, being the only persons who handled the milk in question prior to sale, were examined. Both stated that the milk was sold as produced by the cows without adulteration. The milk came from twelve cows, half of them recently calved, and was morning milk drawn at uneven milking intervals, namely, eleven hours and thirteen hours respectively. The official sample was taken from milk which first of all stood in the barrel containing about seven gallons for about an hour before the cart left the farm, and thereafter the cart was about $1\frac{1}{2}$ hours on the road. The sample was taken from about two gallons left at the time.

Mr. John Findlay, Springhill, Baillieston, in giving evidence as an expert witness, said that the official figures were quite consistent with genuine milk from a herd; that morning milk was invariably poorer than evening milk, particularly where, as here, the milking intervals were uneven, and that the composition of milk materially altered from time to time in course of distribution. He quoted experimental data in his own experience and the experience of others to support his contentions.

Mr. Wm. Robb, V.S., Glasgow, said he had been instructed by Mr. Reid (defendant's solicitor) to take

samples of the milk from respondent's cows under certain conditions, and he did so on two occasions. On neither occasion did the respondent know he was coming. On the first occasion he saw the cows milked coming. On the first occasion he saw the cows milked in the morning, followed the milk from the byre to the cart, and thereafter on the journey, during which he took three spigot samples—the first from the full barrel, the second from the half empty, and the third from the barrel when down to two gallons or so. These when analysed by Dr. Drinkwater were found to stand at 2'18, 2'20, 2'55. In other words, although the milk was certainly genuine all three samples differed, and all three were below the standard. On the second occasion the same procedure was followed, excepting that the third sample was taken from the dregs of the barrel, which had to be tilted to run off the milk. The analytical results were—first sample, 3'07; second sample, 2'70; third sample, 3'46 third sample, 346
Dr. Drinkwater, Edinburgh, corroborated Mr. Findlay's

evidence, and spoke to analysing the samples taken by Mr. Robb.

Mr. Robb.

In giving judgment, the Sheriff said that, apart from other considerations, he saw no reason to doubt the truthfulness of the respondent and his servant girl in swearing that the milk was unadulerated, and that was enough for a decision of the case. But the evidence otherwise satisfied him that genuine milk, from causes such as those spoken to in evidence, could fall below the presumptive standard, and he thought that the deficiency in this milk had been satisfactorily explained. He in this milk had been satisfactorily explained. therefore acquitted."—North British Agriculturist.

Congenital Goitre in Goats.

During the last twelve years Major Robert McCarrison Juring the last twelve years major robort mecarrison, I.M.S., has published a large amount of interesting and highly valuable original work on the causation of goitre, Quite recently he has reported (Indian Journal of Medical Research) the results of his experiments on the Quite recently he has reported (Indian Journal of Medical Research) the results of his experiments on the production of congenital goitre in the goat, carried out at the Central Research Institute, Kasauli, India, in the years 1913 and 1914. His view is that endemic goitre in human beings in India is an infective condition, due to a contagium vivum of unknown morphology that has its habitat in the alimentary tract. He has shown that a similar disease can occur in white rats, and that nearly two-thirds of the offspring of goitrous white rats are born with congenital goitre; this goitre is due to the action on the fetal thyroid gland of toxic substances derived from the maternal intestine. The research now reported is a continuation of the same line of work, with goats as the experimental animals instead of white rats. Twelve healthy female Punjabi goats were penned and stabled together, rendered goitrous by the administration of cultures of microbes grown from the faeces of goitrous individuals, and covered by a healthy male imported from a non-goitrous locality. Eleven of the twelve bore kids, all of which were goitrous, and ten were stillborn, ill-developed, and hairless; these eleven large congenital goitres proved sterile on aërobic andanaërobic cultivation. Four control non-goitrous goats, fed with clean food and

Four control non-goitrous goats, fed with clean food and water, and kept muzzled to minimise the chances of

conclusion to be drawn from these researches is :- That conclusion to be drawn from these researches in congenital goitre in goats is due to the action on the fetal thyroid gland of toxic substances derived from the maternal intestine. These substances are the products maternal intestine. These substances are the products of microbes originating in faecally-contaminated soil which are conveyed to man and animals by infected food and water. The toxicity of the cultures administered to the twelve first-mentioned goats must have been very great, for the congenital goitres produced were, as a rule, of large size, as is shown by photographs reproduced in Major McCarrison's paper, and the offspring showed gross evidence of development retarded or brought to a premature close.—Brit: Med: Jour.

ARMY VETERINARY SERVICE

Extracts from London Gazette.

WAR OFFICE, WHITEHALL, April 18. REGULAR FORCES. ARMY VETERINARY CORPS. Temp. Lieut. to be temp. Capt. :- W. K. Clark (Apl. 2)

Yet. Maj. J. A. Meredith, ret. pay (Res. of Off.) relinquishes the temp. rank of Lt.-Col. on ceasing to be empld. as Asst. Dir. of Vety. Servs. (Apl. 16).

April 23).
To be temp. Hon. Lt.:—W. E. Stribling (Mar. 30).

April 25.

Temp. Lts. to be temp. Capts.:—J. T. Angwin (Apl. 9);
W. Davies, J. F. Lavery, W. G. Bentham, H. J. Watt,
H. L. Forbes, H. L. Caldwell (Apl. 11).

CANADIAN A.V.C.

April 13. Asst. Dir. of Remounts.—(Graded for purposes of pay as an Asst. Dir. of Vet. Servs.)—Temp. Capt. A. E. Frape relinquishes his appt. and grading (Mar. 12).

Dir. of Vet. Servs. and Remts.—Temp. Brig.-Gen. W. J. Neill relinquishes his appt. (Mar. 12).

Graded for purposes of pay as a Dep. Asst. Dir. of Vety. Servs.:—Temp. Capt. W. G. Stedman relinquishes his grading and the actg. rank of Major (Mar. 22).

Asst. Dir. of Vety. Servs.—Temp. Capt. F. Walsh, relinquishes his appt. and the actg. rank of Lt.-Col. (Jan. 19). (Substituted for the notification in the Gazette of Feb. 8.)

Temp. Capt. E. A. Watson to be seed. while spec. empld. (Jan. 29, 1917).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Maj (temp. Lt.-Col.) G. C. O. Fowler, ret. pay (R. of O.), relinquishes the temp. rank of Lt.-Col. on ceasing to be empld. as A.D.V.S. (Mar. 16). April 20.

Capt. to be Maj.:-W. Awde (Apl. 1).

[It appears that in the extract from *The Gazette* which we reprinted last week, p. 432, under T.F., April 12, the initial of Major Abson, p.s.o. (of Sheffield), should be J.—not as there given, S.]

water, and kept muzzled to minimise the chances of accidental infection, gave birth between them to three kids that were free from congenital goitre. Four other control animals were similarly fed but not muzzled; two became goitrous, the other two did not, and between them these four animals produced three kids, two of which had small congenital goitres.

A further experiment was carried out with one of the laboratory goats belonging to the Institute. The animal had a considerable goitre, and Major McCarrison successfully performed a right-sided thyroidectomy on it. It was then impregnated by the same male, and in due time gave birth to a healthy non-goitrous kid. The

The diagnostic character of Effusion in Melanotic Sarcoma.

In the American Journal of the Medical Sciences Dr. C. C. W. Judd has, some months ago, called attention to the diagnostic character of the effusion of melanotic sarcoma. In two cases the usual characteristic signsmelanuria, pigmentation of the skin, or suspicious tumour of the skin or choroid—were absent, but fluid obtained by paracentesis showed almost identical appearances. When agitated it was quite opaque, even in thin layers. On standing, a dense, dark, brick-dust sediment formed, while the supernatant fluid, though intensely pigmented, was clear and of a dark reddishbrown colour. The surface layer was slightly irridescent, with a predominant greenish tone. The foam obtained by shaking had a tendency to a pinkish hue in the first case and to a dirty olive green in the second. The supernatant fluid when tested with perchloride of iron gave no reaction for melanogen, but on addition of bromine water a yellow cheesy precipitate formed, which became much darker on standing, and finally black, indicating that the formation of melanin from melanogen had been completed during life. Tests for bile pigment were negative. Microscopically the sediment showed red corpuscles, epithelial cells, numerous leucocytes, and many tumour cells containing the typical pigmented granules of melanoma.

In the first case the patient, aged 40 years, began to spit blood on May 1st, 1914, and to lose weight and strength. Examination on May 15th showed at both apices loss of resonance, prolongation of expiration, and numerous fine râles after coughing. Early tuberculosis was diagnosed. She improved, but continued to expectorate sputum streaked with blood for eight months. The sputum was repeatedly examined, but never showed tubercle bacilli or any cells suggestive of malignant disease. On Jan. 6th, 1915, there was slight pain on the left side, and a few days later a gurgle within the chest. Ten days later there was dullness at the left base. Hydropneumothorax was, diagnosed and puncture showed the effusion to be "bloody." On Feb. 13th paracentesis was performed to relieve pressure symptoms. Twenty-four ounces of coffee-coloured fluid were removed. Reaccumulation necessitated a repetition of the operation about every five days. The fluid obtained on Feb. 24th was the first to reach Dr. Judd, and had the characters given above. At the site of the first puncture a pigmented growth developed. Death occurred on April 6th. The necropsy showed melanoma of the lung.

In the second case the patient was a very dark man, aged 34 years, who suffered from great abdominal enlargement. There was almost general dullness. Paracentesis yielded three litres of coffee coloured fluid, with the characteristics given above. In the right upper quadrant a firm indefinite mass was then felt. Two days later the skin, which had been dark and slightly sallow, showed numerous small dark moles. As the patient was relieved he insisted on leaving hospital.

Mountain Sheep.

Probably few people are aware of the enormous preponderance of the mountain breeds, for when compared with the large varieties at our agricultural shows they

appear almost insignificant in number as in size.

When the report on the Census of Production Act
was prepared estimates were made of the numbers of
sheep of each British variety, and although the data on
which the figures were founded must have been very

incomplete, it appears that of the total of 27 millions included, over 5,000,000 were Blackfaces alone, 2,650,000 Cheviots, 2,000,000 Welsh, and 1,173,000 "Scotch," probably mountain bred, and 531,000 Herdwicks, quite apart from Lonks, Dartmoors, Exmoors, Limestones, and other types of pure and cross-bred sheep. Thus more than one-half of the sheep in England, Scotland, and Wales consist of mountain varieties.

The importance of these figures is greater than appears at first sight. The Cheviot, for example, has established its claim to be the best mutton variety, if we may judge by the marvellous position which it has long taken in the carcase classes at Smithfield. There are no such collections of meat, with such large proportions of fine lean joints as these sheep present, and what is true of the pure breed is true also of the cross.

The alien breed used in a half-bred flock fed for a large butcher who insists on a carcase which must not exceed a given and comparatively small size, is of the Welsh mountain variety, and it makes beautiful mutton. This flock is fed entirely upon grass, with a little cake for finishing: but it may be pointed out that the grass land has been brought to a high state of perfection, not only with the assistance of the flock, but of unusually liberal artificial manuring.—Live Stock Journal.

An advance in pig rearing.

Mr. Sanders Spencer, writing to the Live Stock Journala week or two ago, says:—When the new system of milling was adopted the supply of sharps, or whatever this finest of milling offals is locally termed, was considerably reduced, and, what was perhaps still more important, the quality of the reduced out-turn was most seriously affected. Many pig men came to the conclusion that the rearing of pigs was seriously affected, whilst some few others, who are evidently of the class who believe that troubles are made only to be overcome, set about finding some other form of feeding to take the place of the sharps. One of these attempts, and apparently a successful one, has recently been related to me by a friend, who wrote: "I have discontinued feeding pigs on slops, giving instead palm nut meal chiefly, with chopped rape and cabbages and lucerne. They have eaten a great quantity of this green food, having entirely cleared up all we had grown. Latterly they have had boiled potatoes and boiled swedes, with the green stuff and the meal. Now they will have boiled swedes and mangels mixed with the meal, as the green stuff is all gone. They seem to thrive on this food and like it, going to rest after each meal. I could see no use in giving them such large quantities of plain water with the meal."

I might add that the practice there is mainly that of breeding pigs and selling them as soon as possible after they are weaned from the sow, so that under the old system a comparatively large quantity of sharps would have been necessary.

ANGLO-FRANCO-BELGIAN VETERINARY RELIEF FUND.

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T. Salusbury Price, M.R.C.V.S. Sir Stewart Stockman, M.R.C.V.S.

Fred Bullock,

10 Red Lion Square, London, W.C.

"Unskilled pretenders to the Veterinary Art:"

In the February part of the Sporting Repository for

In the February part of the Sporting Repository for 1822 the following appeared:—
"Through the practices of the unskilled pretenders to the veterinary art—the ignorance of grooms who purge, bleed, sweat, and cripple one-half at least of the horses entrusted to their care—and the relentless and wanton cruelties to which they have been exposed, this noble animal finds in man his greatest enemy! The establishment of the Veterinary College, under the inspection of Professor Coleman and other gentlemen of science, has been productive of much real benefit; there are yet, however, a vast host of pretenders to the art, who veil their ignorance with the impenetrable covering of mystery, and who evade all questions by a nod or shrug of the shoulders; to extirpate such characters from so valuable a profession is an object 'most devoulty to be wished.' If gentlemen would think and act for themselves, instead of submitting their better judgment to these intuitive geniuses, the eye of science, guided by nature and reason, would soon detect the great impositions to which they are continually subjected."

OBITUARY.

Daniel Spilman, M.R.C.V.S., Lower Hutt, N. Zealand. Graduated, Lond: April, 1873.

Mr. Spilman died 3rd February, 1918.

JAMES WILSON, M.R.C.V.S., Nantwich, Cheshire. Glas: April, 1877. Death occurred 28th March, 1918, aged 60.

THE LATE MRS J. WILLETT.

We announced last week the regretted death of the wife of Mr. John Willett, M.R.C.V.S., of 6 Harley Place, Harley Street, W., which took place in a Nursing Home on Sunday, the 14th inst, after a protracted illness borne with great fortitude and patience.

Mrs. Willett was widely known and very popular in the Parish of Marylebone, chiefly in connection with

local charities previous to the war, and subsequently in assisting and taking an active interest in the raising of funds for our dumb friends, through the R.S.P.C.A. She had also taken a keen interest in Alexandra Rose

She had also taken a keen interest in Alexandra Rose Day since its inception.

The deceased lady, who was a member of an old Montgomeryshire family, leaves a husband and two children to mourn her loss.

She was laid to rest in the family grave at Marylebone Cemetery on Friday, the 19th inst. The service at Holy Trinity Church, conducted by the Rector, the Rev. Ernest Sharpe, was fully choral and largely attended.

The following members of the Central V.M.A. were amongst the congregation: Prof. Wooldridge, Messrs. MacCormack, McIntosh, R. J. Foreman, G. P. Male (Reading).

amongst the congregation: Prof. Wooldridge, Messrs. MacCormack, McIntosh, R. J. Foreman, G. P. Male (Reading).

Many beautiful wreaths and letters of condolence were received from—amongst others—the following, testifying to the respect in which she and her husband were held: Mr., Mrs. and Miss Woosnam (brother), Mr. and Mrs. G. Morgan and family (sister), Mrs. Albert Willett, Mr. and Mrs. F. W. Willett, Capt. and Mrs. Ernest Willett, Mr. and Mrs. F. Tims, Lt.-Col. Lord Penrhyn and Officers 1st Life Guards, Lt.-Col. Fitzgerald, M.Vo., and Officers Royal Horse Guards, Lt.-Col. Sir George Holford, M.V.O., Col. C. Rutherford, C.B., C.M.G. (Ireland), Sir Alan Bagot, Bt., Sir Adolph and Lady Tuck, Sir Stewart and Lady Stockman, President and Fellows Central Veterinary Society, Mrs. J. Blundell Leigh, Dr. and Mrs. Jenkins, Dr. and Miss Quartley, Prof. and Mrs. Wooldridge, Major Pelham, Capt. and Mrs. C. Bray (Melton Mowbray), Capt. and Mrs. H. E. Jackson, Lt. T. Searle, A.S.C., B.E.F., The Directors of Messrs. Debenham, Ltd., Mr. E. L. Stroud, Mr. H. A. MacCormack, Mr. and Mrs. G. P. Male, Mr. and Mrs. J. McIntosh, Mr. and Mrs. J. B. Buxton, Mr. and Mrs. R. J. Foreman, Mr. and Mrs. E. J. Whittle, Mr. and Mrs. F. C. Edwards, Warrant and N.C.Os. 1st Life Guards, Warrant and N.C.Os. 1st Life Guards, Warrant and N.C.Os. 1st Life Guards, Warrant and N.C.Os. 1st Life

Mr. J. WILLETT and Family return thanks for kind enquiries and sympathy in their bereavement; they regret that owing to the large number it is impossible to answer them individually.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Period.		Anth	Anthrax Foot- and-Mout Disease.		Iouth	Glan	ders.†	Para Mar	sitic ige. ‡		Swine Fever.	
		Out- breaks	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.		1	1	1		1		1	700			
Week ended April 20		9	9				2	60	153	ð	34	10
Corresponding 1	917	. 15	16					44	75	6	77	35
week in	916	. 8	11	1		1	1	31	81	4	118	358
week in	915	. 19	20			2	2	56	152	1	84	548
Total for 16 weeks, 1918		109	124			13	35	2142	4186	230	283	106
Commonway 3im - (1	917 .	220	253			10			2431	342	757	286
		207	246	1	24	21	60		2755		1407	4365
period in 1	915 .	255	295			11	16	‡161	1380	138	1181	5098

[†] The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, April 23, 1918

Excluding outbreaks in army horses.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:—

bassoriptions for 1010.			
J. Clarkson, Garforth	£1	1	0
J. F. Craig, R.V.C., Dublin	1	1	0
F. J. Daly, Swords	1	1	0
C. H. Delacherois, Sandford	1	1	0
T. Dobie, Birkenhead	1	1	0
W. Dobie, Birkenhead	1	1	0
J. Henderson, Edinburgh	1	1	0
A. Holbnrn, Congleton	1	1	0
J. Lindsay, Dumfries	1	1	0
S. W. Pratt, Shanghai, China	1	1	0
A. Spicer New Oxted	1	1	0
Previously acknowledged	692	6	0
	£703	17	0

Defence of the Realm.-Ministry of Food.

AUTHORITY TO LICENCEES UNDER 39 & 40 VICTORIA CAP. 77.

In exercise of the powers conferred upon him by the Defence of the Realm Regulations and of all other powers enabling him in that behalf, the Food Controller hereby authorises all persons concerned to give effect to the following provisions:—

1. Notwithstanding the provisions of any Order made or to be made by or under the authority of the Food Controller relating to the acquisition or use of foodstuffs a person who holds a licence issued by the Secretary of State under Section 8 of 39 & 40 Victoria cap. 77. may obtain and use such foodstuffs as are required by him for the feeding of animals kept for the purpose of the experiments to which such section relates, or as are required by him for the preparation of laboratory materials in connexion therewith, but subject nevertheless to the subsequent provisions hereof and to such other conditions as the Food Controller may from time to time prescribe.

2. Where the supply or acquisition of any foodstuffs is regulated by any Order made by or under the authority of the Food Controller, such foodstuffs may be supplied by a person under this Authority only upon delivery to him of an Official Order form covering the amount supplied and signed by the licensee and all such forms shall at all times be open to the inspection of any person authorised by the Food Controller or a Food Control Committee and shall be delivered up to any such person on demand.

3. Every person who obtains or uses any foodstuffs by virtue of this Authority shall keep a record of the quantities so abtained or used by him and of the names of the persons from whom the same have been obtained, and shall produce such record to any person authorised by the Food Controller or a Food Control Committee.

By Order of the Food Controller,

W. H. BEVERIDGE,

Second Secretary to the Ministry of Food.

5th April, 1918.

Prof. GAIGER, who has been appointed Professor of Bacteriology in Glasgow Veterinary Coliege, has a splendid record of work in India, Peru, and the West Indies. He is taking on some serious work in the Glasgow College in connection with sheep diseases, and should be heartily and liberally backed up.—The Scottish Farmer.

Veterinary Societies - Addresses.

BORDER COUNTIES V.M.S.

Pres: Mr. H. Barrow, M.R.O.V.S., Ireby, Carlisle

'Ion. Sec: Mr. R. Craig Robinson, M.R.O.V.S., Carlisle

Meetings, Second Friday of Feb., June, and October

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Meetings, May, July, October, January.

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MIDLAND COUNTIES V.M.A.

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Friday alternately in Feb., May, Aug. and Nov

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Pr.s: Mr. Hugh Willisms, M.R.C.V.S., Ty Croes

too. Sec. Mr. L. W. Wynn Lloyd, M.R. C.V.S., Carnarvon

Actings, First Tuesday, March and September

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122 St. George's Avenue, Tufnell Park, N.

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10 Red Lion Square, Holborn, at 7 p.m.

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Boston Road, Sleaford

Meetings, Second Thursday Feb., June, and October

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Meetings, Last Thursday, Mar., June and Sept.
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Meetings, Last Saturday in January and August

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Public Health Dept., City Chambers, Edinburgh

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Pres: Prof. John R. McCall, M.R.C.V.S., Vety. Coll. Glasgow

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Hon. Sec: Mr. J. F. Macintyre, M.R.C.V.S.,

19 Bank Street, Hillhead, Glasgow
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88 Crookston Street, Glasgow
Meetings, Second Wednesday, May, Oct. and January

RECORD ETERINARY

Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1556.

MAY 4, 1918.

Vol. XXX.

THE COUNCIL'S WORK FOR THE PROFESSION.

There was a time when our Council had comparatively little to do with Government Departments, and certainly had but little influence with them. Matters have changed altogether since then; and during the last decade the Council has become accustomed to frequently confer with various Government Departments. Naturally during the last three years this intercourse has greatly increased; and the result has been beneficial to the profession in many directions. Probably few members have ever realised how much they owe to the influence which the Council has had upon Government

Departments through these last years.

Instances are occurring constantly. One was the letter, published a fortnight ago, announcing that the Secretary had obtained the statement from the Ministry of Food that veterinary surgeons are entitled to supplementary rations—which is no small boon. Others were the communications read at the last Council meeting from the Ministry of Food and the Ministry of Labour, relating respectively to the use of fats and oils in veterinary practice, and the re-settlement of veterinary surgeons in civil life after the war. The Council is now in touch with more Government Departments than ever before. With one Department—the War Office—the results have often been disappointing; but, considering the present power and absolutist tendencies of that body, perhaps no more could have been expected.

With other Departments the Council has often been very successful; and perhaps the most striking example of its utility to the profession is in connection with the motor and petrol regulations. We all remember the confusion that prevailed regarding them. Local officials were slow to grant veterinary rights; and many practitioners did not understand what those rights were. The Council cleared up the maze, and then undertook the onerous task of the rectification of individual cases. No one can say how much additional work this cast upon the Secretary; but the work was well done, and resulted in substantial benefit to many working practitioners.

record of war work for the profession. Of course, it was no more than the Council's duty; but the work was well done, and the results have proved valuable to the profession. Some of it, again, would A solution, which should be tepid, of from 5.6 to not have been done had not the Council and its 7.5 grammes of commercial sodium fluoride or of officers been keenly alive to their responsibilities 5 grammes of the chemically pure drug to the litre and on the alert for every opportunity to advance of water is used. Each fowl is immersed in this the interests of the profession. Perhaps the chief solution by holding it by the two wings united credit belongs to the President, whose work in these over the back. Care is taken that the solution matters alone more than justifies his continued re- should reach the skin, the feathers being raised by election to office, and to the assistance he has passing the hand in a contrary direction to them

received from probably the best Secretary the R.C.V.S. has ever had. The benefit of the results goes to the whole profession, the working practitioner has an ample share of it.

TREATMENT OF ECTO-PARASITES IN FOWLS.

F. C. Bishopp and H. P. Wood have recently tested several of the preparations commonly employed against ecto-parasites of fowls, and several other compositions which they thought might prove efficacious.

They find that the common acari may be destroyed by two or three disinfections of every part of the fowl houses (perches, nests, walls and floors) by means of abundant and careful washing with crude petroleum. The disinfections are repeated at intervals of a month. Carbolic acid is equally efficacious; but its effect is less durable. The best treatment for foot-mange is to immerse the feet in crude petroleum, repeating the treatment a month later for greater security.

Against lice, no remedy was found so efficacious as commercial fluoride of sodium (containing 90 p.c. to 98 p.c. of the fluoride). Its action is rather slow; but as it is permanent, it ends by destroying all the lice, both the adults and those which gradually hatch out from the eggs. A single treatment

suffices to effect this object.

Fluoride of sodium may be applied in powder form or in baths. In the first case the best method is to apply the powder in pinches under the feathers immediately upon the skin. As all the species of lice do not migrate over the whole body, it is of essential importance to place pinches of the powder in various parts of the body of the fowlone on the head, one on the neck, two on the back, one on the breast, one under the anal aperture, one on the tail, one on each thigh, and a little on the under surface of each wing held open. The drug may also be applied with a pulveriser; but this method is attended by such drawbacks as consuming a greater quantity of the powder, dispersing it Members who have not yet subscribed to the into the air and irritating the nose and throat of College funds might well consider the Council's the operator, being disagreeable to the fowls, and perhaps irritating their respiratory passages; so the authors prefer the first method.

The method of bathing is more rapid and easy.

while the whole body, except the head, is immersed. Finally, the head also is immersed once or twice. From 30 to 45 seconds is necessary to bathe each

Pulverisation with flowers of sulphur is also very efficacious; but it is necessary to repeat it after an interval of four days.

The authors have found that a bath in a solution of 7.5 grammes of soap to the litre destroys all the lice of fowls; but a second treatment is necessary ten days later, as the bath does not destroy the eggs. As this solution completely soaks the feathers, it should be applied only on calm, warm days, to avoid risk of chill to the fowls.

Among the other remedies in use, a mixture of crude carbolic acid, gasoline, and chalk is efficacious, but requires repeated applications. curial ointment is very efficacious against Menopon biseriatum, but is of little use against Lipeurus heterographus and L. raria bilis. Against the last species repeated applications are necessary, which greatly raises the cost of the treatment. Compositions with a pyrethrum base do not completely destroy the lice.

To destroy the lice of the heads of chickens and young fowls, an emulsion of petroleum and carbolic acid, applied in small doses, is extremely There are lice-destroying preparations advertised which consist largely of naphthalene. This drug certainly has an insecticide action, but is prejudicial to the eggs and fowls, and may even kill the fowls if it remains long in contact with them .- (La Clinica Veterinaria). W. R. C.

A NOTE ON DOURINE.

By Colonel H. T. PEASE, C.I.E., V.D., I.C.V.D., Principal, Punjab Veterinary College, Labore. [Abridged.]

(Continued from p. 441.)

Symptoms in the stallion. The primary symptom consists in the appearance of odematous swelling of the penis and the neighbouring parts. There is little doubt that this symptom always appears, but is so variable in amount that at times it may escape notice. Generally it is easily seen and in some cases is considerable, involving the prepuce, sheath, and in some cases the scrotum, and may extend under the skin of the belly towards the chest. It appears in from 10 to 30 days after an infective covering.

The parasite appears to grow in crops in the tissues near the seat of inoculation, for the amount of odema present varies considerably from time to time as the parasites are few or numerous. The primary odema usually disappears after a time, and after a few days it reappears. There is some slight irritation in the organ. The horse is uneasy and is constantly drawing Symptoms in the stallion. The primary symptom

it reappears. There is some slight irritation in the organ. The horse is uneasy and is constantly drawing and retracting it. The result of the recurrence of cedema in the parts is that by degrees lymph becomes organised into fibrous tissue there, and after about a constant of the control of month the sheath becomes permanently swollen and is doughy to the touch.

The trypanosome seems to greatly prefer the lymphatic system. Travelling along the lymphatics it reaches the neighbouring lymphatic gland and this generally becomes enlarged early in the attack.

such cases the passing of urine may be attended by some pain.

In the early stages of the disease, when the amount of cedema is small and there are no constitutional symptoms, it is very difficult to realise that there is anything seriously wrong with the horse, as his coat is glossy, condition good, appetite normal, and temperature generally within normal limits. This is most unfortunate because at this time the horse will generally freely and easily cover a mare, and it at this time that he is most infective. This cedematous swelling may be the only symptom noticed for some months, and if during all this time the horse is kept at work considerable damage will be done.

As a rule, in carefully observed cases in India, especially in imported animals, the parasite gains the general circulation, probably by way of the lymphatics. It does not appear to multiply in it. It is practically impossible to find any trypanosomes in the blood of the general circulation at any period of the disease, but there is the fact that we can generally reproduce the disease in a susceptible animal by inoculating it with a large quantity of blood from a diseased animal. The entry of the parasite into the blood causes no fever.

What does occur in most cases is that a few parasites escape from the cutaneous capillaries into the tissues and give rise to the peculiar eruption on the skin in the shape of flattened edematous patches or placener. In the early stages of the disease, when the amount of

escape from the cutaneous capillaries into the tissues and give rise to the peculiar eruption on the skin in the shape of flattened œdematous patches or plaques.

Symptoms in the mare. The infective material gains entry to the mucous membrane of the vagina and gives rise to inflammation and œdema, in the same way as in the horse, and as the clitoris is generally involved the mare is uneasy, whisks her tail, and appears to be in season, and this is often the first symptom seen. Cases are on record in which congestion and œdema of the vaginal mucous membrane are the only changes noticed for six or seven months—a most dangerous state of affairs.

Generally the cedematous swelling involves one or both lips of the vulva. The swelling may be very slight and scarcely noticeable or it may extend to the perineum or even to the mammary gland. If the mucous membrane of the vagina be examined, parts of it will be found congested and cedematous. These are red at first and later reddish violet. The clitoris is generally congested and irritated in an erect position and this causes the mare to rub her rump and tail against the stable wall. In some cases small ulcers appear on the membrane but they are not constant and soon heal up. Mucous discharge generally escapes from the vulva but the quantity and quality vary considerably. In some cases it is scarcely perceptible, in others it is viscid, dirty white in colour, and soils the tail, perineum and thighs. Generally the cedematous swelling involves one or

thighs.
As in the case with the local lesions in the horse, the swellings increase and decrease but eventually the elasticity of the tissues of the vulva is lost, fibrous tissue develops and the organ becomes deformed, flaccid, wrinkled, gaping at the lower extremity and showing the congested clitoris. This is the condition often seen in cold cases in which, in addition, patches of white tissue due to destruction of pigment, will be seen on the skin of the vulva.

tissue due to destruction of pigment, will be seen on the skin of the vulva.

These then are the early symptoms in the mare and they may remain throughout the disease. The parasite goes on multiplying and soon gains the general circulation and, in the same way as in the horse, gives rise to a patchy cruption of the skin.

Eruption of patches. What generally occurs in carefully observed cases in India is that in from 25 to 60 days after the infective covering a peculiar patchy cruption appears on the skin.

In Lingard's cases, in five mares the first share.

The urethra in some cases will be rendered slightly inflamed, and sooner or later protrude somewhat. In appeared in 30, 32, 24 and 33 days respectively after

covering, while in the fifth it was 116 days. In two sult. In such cases emaciation continues and death inoculated mares plaques appeared in one case in 34 results. days and in the other 70 days. In my original cases it

In such cases there is just the faintest layer of cedema in the skin and the hair over it lies unevenly. As a rule the plaques are large and seen in considerable number. or even in abeyance: they may reappear later and lead They are generally circular patches of cedema, flat or to the supposition that they are secondary and not slightly oval on the surface, but they may be irregular primary symptoms. in shape. They vary in size from $\frac{1}{2}$ to 5 inches in diambut irregular-shaped ones may be even larger. They may appear singly and at long intervals or several appear within a period of 12 to 24 hours.

above the surrounding skin. Each plaque, in the great of the spermatic cord produces slight, very chronic inmajority of cases, appears but once and after persisting of the cord, epididymis and testicles. The for a variable time disappears slowly or suddenly. The result is enormous thickening of the cord, complete loss time which they remain varies from 1 to about 40 days: of the gland tissue of the testicle and the development but generally only for a short time. They are due to in its place of an enormous amount of fibrous tissue.

The newly erupted patches invariably contain the trypanosome in greater or lesser numbers. The eruption

continued 313 days. The following periods have been noted: -Arab stallions 254-304 days; Australian mares 168-202 days; country-bred mares 75-181 days.

The time varies then in different animals, being shortest in country-breds and longest in English

thorough-breds.

The eruption of plaques is generally greatest early in the course of the disease and at this time in well-marked cases the body is seldom entirely free from them for any length of time. As the disease progresses they become fewer and eventually long intervals elapse during which no plaques appear and the disease seems to make no progress. Lingard quotes a case in which the interval was 138 days or 4½ months, and this coincides with my own experience. In very old cases patches apparently cease to occur.

At a later period other skin lesions appear at the seat of the cedema, testicles, scrotum, vulva, perineum, in the form of leucoderma or white spots due to destruction of the skin pigment by the trypanosome. Attacks of urticaria are common in this as in other parasitic diseases, and the eruption generally lasts only for a short time.

The eruption of plaques on the skin and the local symptoms continue for many months in most cases, and concurrently other general symptoms develop. There can be no doubt that the trypanosome produces toxic material, for attacks of urticaria due to it are often seen on the skin during the course of the malady. toxin exercises an adverse influence on the bodily functions and as a result the animal loses spirit and condition, the coat becomes harsh and unhealthy, and the animal spends a good deal of its time lying down.

Like other trypanosomes, localisation of this parasite often occurs in the spinal cord—generally in fairly bad cases, and symptoms of weakness of the hind quarters and paralysis occur. These may be confined to feebleness of the hind quarters; the animal frequently resting its hind limbs alternately or, if walking, dragging them forward in a listless manner; or the hocks and pasterns

In other cases the paralysis may suddenly appear without any previous indication and the animal falls and is unable to rise. The paralytic symptoms may dis-

In some cases the plaques are very few and so small themselves, but that paralysis cannot be present in so be discovered with difficulty, it being necessary to Dourine without being accompanied, or at least prelook along the skin towards the light to see them at all.

In such cases there is just the faintest layer of the control of th Maresch, in Bohemia, states that the malady may run apparatus. At the time when paralysis usually shows itself the other local lesions may be few and not marked,

Other complications are not at all uncommon. Suppuration and abscess formation in the lymphatics often occur, and especially in those situated in the region of the scrotum of the horse and the mammary gland of the The circular plaques are generally only slightly raised mare. In the stallion invasion of the lymphatic vessels the trypanosome becoming localised in the tissues and There are for some time symptoms of continued irrita-setting up slight lymphangitis and consequent codema. tion, the animal standing with one or other of the hind legs raised alternately.

Another not infrequent complication is the localisaof patches during the course of the disease continues for ition of the parasite in one or other of the joints, hock, a variable period; in some recorded cases for 75 to 313 hip, fetlock, etc. This sets up synovitis, in some cases days, in the horse. In a thorough-bred stallion they slight and the symptoms intermittent. At other times slight and the symptoms intermittent. At other times the joint becomes distended with fluid, the animal unable to use it and ulceration of the cartilage follows.

The parasite may invade the tissues of the eye and give rise to conjunctivitis, inflammation and ulceration

of the cornea, etc.

The mucous membrane of the nose at times becomes eroded and a purulent discharge may occur in small quantity while at the same time the submaxillary lymphatic gland is enlarged and the inguinal glands suppurating. Such cases resemble glanders.
Higgins, who investigated the disease in Canada, gives

the following table of symptoms in stallions and mares

as he observed them :-

	1	Horse.	Mare
Swelling of vulva per	cent.	_	34
Swelling of penis	22	75	_
Discharge from vulva	**		20
(Edematous mucous membrane, vag	gina ,		70
Eversion of the meatus urinarius	"	65	_
Phymosis, paraphymosis	"	37	_
Leucodermic patches	,,	62	34
Nervous incoordination, hind quar	ters ,	25	30
Patches	"	_	6
Localised cedema	"	75	10
Keratitis, corneal opacity	**	25	4

These do not correspond with what is seen in India. In all the cases seen out here there were swollen cedematous mucous membrane of vagina in mares and ædema of prepuce in the horse; only one case has been noted in which patches were not seen at some stage of the disease.

Although some horses do recover, in the cases of apparent recovery as a rule development of the symptoms ceases, and the animal picks up in condition when rested and well fed; but the disease still remains present in a latent state and if the horse be again put to stud work it is very likely that it will reappear with renewed virulence. The prognosis therefore is not usually favourable and temporising methods of suppression are not recommended. It often happens in favourable circumstances that an animal may have Dourine for several years in a latent form.

Recovery. Recovery is more frequent in cases in which the symptoms are little developed. When it appear; they may increase and complete paralysis re-loccurs the morbid phenomena diminish, the wasting of

the body ceases and the animal gets into good conditionthe body ceases and the animal gets into good condition. The other symptoms nearly disappear. Some, such as doughy swelling of the sheath and leucodermic patches on the skin of sheath or scrotum, remain. Paralysis of the lips of the vulva with flaccidity, wrinkling and gaping of the lower part frequently remain. Continental authorities regard complete recovery as rare.

Observation of the parasite. It is often so difficult to find the parasites that some veterinarians thought that the Dourine of Europe differed from that seen in Algiers and India: but careful observation in favourable cases

and India; but careful observation in favourable cases has shown that the parasite does exist, and is the cause

of European Dourine.

The earlier stages of the disease are the most favour able for finding the parasite. It exists in very few numbers in the circulation and it is practically imposs-ible to find it there. It is easiest to find in the blood and ædema from the ædematous swellings of the penis and edema from the edematous swellings of the penis or by scraping the congested and edematous mucous membrane of the vagina. In some cases it persists for a long time in the tissues at the seat of inoculation, but it is not always easily found. Apparently it occurs in crops, although not so markedly as does the trypanosome of surra. It may be found, in varying numbers, in the blood and edema from the newly formed patches in the early stages of the disease. It is not at all easy to find in advanced cases, and indeeed in old cases, when the patches are not forming, it cannot always be seen.

It does exist in the blood of the general circulation at times, however, because if a large quantity of this, 10c.c. for instance, be injected into a susceptible animal it will usually cause the disease. But a large quantity of blood is necessary, and it is not always successful unless the disease is active and symptoms are appearing.

(To be concluded).

NORTH MIDLAND VETERINARY ASSOCIATION.

[NATIONAL V.M.A.—NORTHERN BRANCH.]

The fifth Annual Meeting was held at the Grand Hotel, Sheffield, on Tuesday, Feb. 26, 1918. Present:—Mr. W. Collinson, President; Messrs. T. C. Fletcher, R. Hudson, J. S. Lloyd, W. Murgatroyd, S. H. Nixon, M. Robinson, S. E. Sampson, C. Secker Smith, and H. Thenweise.

Thompson.

An apology for non-attendance was received from Mr. J. H. Gillespie, Doncaster.

The minutes of the last meeting were read and confirmed, on the motion of Mr. T. C. Fletcher, seconded by Mr. H. Thompson.

The report of the Council meeting held on Jan. 29th was adopted, on the proposition of Mr. T. C. Fletcher, seconded by Mr. H. Thompson.

The Hon. Treasurer, Mr. H. Thompson, submitted the balance sheet for 1917, which showed a credit balance of £31 0s. 1d.

PRESIDENTIAL ADDRESS. By Mr. W. Collinson, Auston.

Gentlemen,—It is my first duty to thank you for the honour you have done me in electing me President of this Association for the ensuing year, and I can assure you that I appreciate that honour very much.

you that I appreciate that honour very much.

With your co-operation I trust we shall have an instructive and pleasant year. I ask all the members to attend, as far as possible, whatever meetings we may be able to hold, as it is only by interchange of ideas and private practical experiences that such an Association as this can confer on its members the full benefits in-

tended. Not all the members have time or inclination tended. Not all the members have time or internation to write a paper, but all have some cases of interest which they can bring forward for discussion, and I hope they will do so, and so make our meetings a success.

It is with considerable diffidence I present this President is with considerable and they are the covarious that the covarious the state of the covarious that they are the covarious the state of the covarious that they are the covarious that they are they are they are they are they are the covarious that they are the are they are the are the are the are they are the are the are they are the are the are they are they are they are they are they are the are they are the are the

dential address, and therefore ask you to overlook the shortcomings. As my worthy predecessor threw his address open for discussion, I do the same, and ask you to give your individual opinion on anything that may

to give your individual opinion on anything that may arise of interest to you.

For so young a Society, I consider we are in a healthy state, as the balance sheet before you shows. This is due to the energy of our past Presidents and our most energetic Hon. Secretary, who I am sure deserves our best thanks for the trouble he has been at, and the time he has given to the work connected with this Association. It is up to us to keep things going until times again become normal, which I am sure we all hope is not so very far distant.

tion. It is up to us to keep things going until times again become normal, which I am sure we all hope is not so very far distant.

I see a few of our brethren are endeavouring to form a Veterinary Medical Association at the front, which they have entitled "The Somme Veterinary Association."

No doubt a good many very interesting cases will be brought forward there, and records kept of same. I hope they will be reported in the veterinary press, so as to give all a chance of reading them, and of trying anything likely to be useful in private practice.

On looking through The Record for 1917 the thing that struck me most is the state of the College finances. I see the voluntary subscriptions for 1917 amounted to £950 for the year, leaving a deficit of £250. If it had not been for these subscriptions the deficit would have been £1200. This would have been verging upon bankruptcy, a state of things no veterinary surgeon can look upon with equanimity. Surely those members who have not yet subscribed will do so, and save the situation. I think the members of this Association have contributed their quota, and I ask any who have not yet done so to give the matter their serious consideration, and to send along their guinea, either through our worthy Hon. Sec. or direct.

It is to be hoped that after the termination of the war the State will see its way to assist, as is done in most other countries. This aid will only be forthcoming if the necessity is constantly brought to their notice. This should be done by the Council of the R.C.V.S., and the Council should have the backing of all the Veterinary Medical Associations, and of the profession as a whole.

It is very gratifying to see the State recognition of some of our brethren now serving in H. M. Forces for

whole.

It is very gratifying to see the State recognition of some of our brethren now serving in H. M. Forces for good work done. This confers lustre indirectly on the whole profession, and may have far reaching effects in the future.

the future.

We hear a lot about the profession "going to the dogs," but I think we should be more optimistic, as there is a wide field opening out for the veterinary surgeon of the future. There is no doubt more men will be required for the army and other Government appointments, as well as for Public Health work. Better remuneration should, and I think will, be offered, and so will attract the best men, who will be specially trained for the work they undertake.

The private practitioner is doing much better the

for the work they undertake.

The private practitioner is doing much better at the present time, not because so many men are away, but owing to the enhanced value of all live stock. I find and I have no doubt you gentlemen find, that you now get called in to attend many a case which in pre-war days would have had to take its luck. The prices of stock are going to keep up for a good many years yet, and so I take it will the demand for professional advice. Whilst these high prices obtain farmers will keep breeding. This is another sphere in which the veterinary surgeon can render a public service—by giving advice

as to the mating of stock and exclusion of parents likely

to transmit any hereditary disease.

I also think there will be a demand for horses of an army type, and I trust better prices will be paid for them than formerly, so as to encourage the farmer to breed them.

I understand the Shire horse has not been a success on actice service, and, if farmers would own up, he is not as useful an animal on the farm as a more active and cleaner-limbed animal. The price paid for these very big animals for town work has been the chief inducement to the breeder in the past.

Veterinary medicine and surgery has during the past twenty years undergone great changes and made considerable progress, and there is no doubt that this progress will be maintained in the future. No doubt the gentlemen now on active service will, on returning to private practice, introduce many new methods of treatment, particularly in horse practice. Local and general anæsthesia are now in everyday use where formerly the twitch, casting rope, or hobbles only were used, and the operation performed on a struggling patient—to the detriment of operator and subject. Incidentally I think the use of anæthetics makes a good impression on our clients.

A wide field open to the veterinary surgeon of the future is that of preventive medicine, such as inoculations against black quarter, swine fever, abortion, etc., also the use of diagnostic agents, such as tuberculin and mallein. The veterinary surgeon is the proper person to apply these agents and should certainly be the only one permitted to do so. I should like to hear the experience of gentlemen present with the food now available for horses, cattle and pigs—particularly pigs. I find a lot of very inferior stuff, with apparently very little nutrient value, judging from results. A good many carters and horsekeepers are using this pig meal for horse food, with resultant colic, impaction, eruption on skin, thick legs, and so on. We are given to understand that this food shortage will last for some years. If so, can any suggestion be offered to horse owners—firstly, as to the proper proportions of these available foods to be given; and secondly, methods of countering the ill-effects of same?

The slaughter of horses for human food is a comparatively new industry in this country. I believe horse flesh has been sold in some districts for a good many years, but to nothing like the extent that it is now. This will no doubt become a permanent industry now that the public are overcoming the prejudice they formerly had for "Poppo." I dare say Mr. Lloyd can give us some information as to what they are doing in Sheffield in this matter.

That the slaughter of all these horses for food will clear off a lot of undesirables there is no doubt, but I think it is also taking many horses with a good many years' work in them, and so making it hard for the little man to obtain a cheap working horse. Of course, on the other hand, it is making the good horses more valuable, and so making it better worth while to call for our assistance when they are ailing.

Assistance when they are aning.

No doubt, gentlemen, you have experienced some difficulty in obtaining drugs for some time now, and have had to use substitutes. I should like to hear your experience with these, as I think in the past we have been rather lavish in the use of drugs, while we now find we can do very well without a good many of them.

I noticed a case where some parties had been fined for obtaining, on a veterinary certificate, some whisky for a poorly animal. I believe a good many members of the profession have thought they were within their rights in obtaining spirits in this manner. I myself have given a note and obtained some after hours on a few occasions

when a long way from home and a stimulant has been urgently required and I have not had the necessary drug with me.

I trust, gentlemen, I have not bored you with this address, and I hope you will discuss freely any point of interest you may find. I thank you for the patient way in which you have given your attention.

Mr. J. S. Lloyd said: Mr. President, you have singled me out in your address in regard to the killing of horses and the sale of horse flesh for human food. Last week there were killed in Sheffield about 140 horses for human food, and it would perhaps be advisable for me to state shortly the procedure under which we are working. Several years ago we received applications at various times, mostly from two or three people, for the licensing, or registering, of a slaughter-house to be set apart for killing horses for human food. The Health Committee of the City Council appointed a Sub-Committee to deal with the matter, and they inspected one or two slaughter-houses, but at no time did they get hold of a slaughter-house which satisfied the conditions under which they considered this trade should be carried on. The most likely place was unfortunately quite close to a Council School, and although it was otherwise a suitable place permission was not granted. At that time it was intended to pickle the horseflesh for sending abroad.

When the large number of Belgian refugees came into Sheffield in 1914, amongst them were people who had been connected with horse-flesh trade in Belgium. They approached the Health Committee for permission to kill horses, and I may say that the application was backed up by the representative of a local firm of knacker men, and the Committee came to the conclusion that unless they provided a slaughter-house for these people they would probably provide one for themselves, very possibly outside the city. We had at that time a very good slaughter-house being used as a gut scraping premises, which was let at a rental of 35/- per week, and it was thought that accommodation could be found for the gut scraper elsewhere, on more or less derelict property belonging to the Corporation. A new place was found for him, and the slaughter house was set apart for the slaughter of horses. This slaughter house is a very good one for the purpose. It is in the Shambles, although it has a separate approach, and the horses can be brought in without actually going into the Shambles. The only drawback that we have is that there is no accommoda-tion for horses waiting to be killed, there being room only for about four animals, but we have some spare ground close by, and now that the proceeds from the slaughter-house are very considerable I hope that some money will be spent, and railings put up for tying the horses to. We do not want to make permanent ac-commodation, or we shall find that men are leaving horses all night. In one or two cases horses have been left under an archway all night and were impounded by the police, and the owners have been compelled to pay for the feeding and accommodation of them.

At the commencement the Markets Committee only charged 2/- per horse for the use of the slaughter-house. Recently the charge has been doubled, so last week the proceeds of the slaughter-house amounted to £28. I think we are now justified in asking the Markets Committee to provide more accommodation, and to keep a man to clean up, etc. I feel quite certain that if these horses had not been killed for human food there would have been a very serious outcry amongst poor people, who were unable to obtain any other meat.

As to inspection. We inspect every horse alive. It was intended that either my assistant or myself should do it all, but owing to the very awkward times at which the men want to slaughter, and to the uncertainty of the

time of arrival of some of the animals, the lay inspector does part of the work, and we have to make the best of it. The inspection is really not so very important, because we find that the greater number of the horses are very sound as regards diseases which would affect because we find that the greater that the flesh. The rejections include canker in the feet, greasy legs, and extreme poverty. In regard to extreme poverty, I may say that any veterinary surgeon who goes to inspect a horse as regards fitness for food is going to be surprised if he assumes that every thin horse is not going to be fit for human food. The horse we find to be the worst is the one which has been worked down to skin and bone in the streets. The flesh is very dark, the fat the worst is the one which has been worked down to skin and bone in the streets. The flesh is very dark, the fat is very yellow, and the fat in the spaces between the dorsal spines is like jelly, and will not set. We have always put our foot down against canker and greasy leg. I do not think it is fair to pass a horse for human food which has a nasty, dirty sore leg.

I do not know Mr. President that I have much to say about the other portions of your address. I would like other members to take it up. There are several matters with regard to drugs which they know more about than I do.

I would like to say how pleased I am to see you in the Chair, to thank you for your address, and to express the wish that you will have a pleasant year of office.

Mr. T. C. FLETCHER: I am sure we all thank you for

Chair, to thank you for your address, and to express the wish that you will have a pleasant year of office.

Mr. T. C. FLETCHER I. I am sure we all thank you for your kindness in giving us your Presidential address, and particularly for your kindness in throwing it topen for discussion. There are several points which you could upon in perhaps the lightest way you could, not out trusting that we may take them up more fully, and promote some discussion. The principal note I have made is with regard to the private practitioner and his pollock in the future. You are, I think, Mr. Presidential subsolok in the future. You are, I think, Mr. Presidential subsolok in the future. You are, I think, Mr. Presidential to the future of the private practition of the private practition. You can be a subsoloked in the future. You are, I think, Mr. Presidential to a subsolok in the future. You are, I think, Mr. Presidential to the future of the private practition. You will not look upon the future of the private practition of the same amount of optimism that you do. The shorts age of horses in how that they are present and the private practition. There used to be a time when a couple of days when we had practically nothing to dower looked upon as a great hardship, but, gentlemen, in my experience the periods of being not busy are getting longer, and to my mind more acute. There certainly and promote one of the second properties of the private practition of the second properties of the private practition of the same amount of optimism that you do. The shorts age of horses in now making itself very materially felt to us in towns. The periods of being not "busy" are longer, and cover not be a simple to the private practition of the same amount of primism that you do. The shorts age of horses in now making itself very materially felt to us in towns. The periods of being not "busy" are defined to a simple the property by the property of the private practition of the serice of the private practition of the serice of the private practit

We have a plain label on most of our bottles that we take with us, and when a bottle is left to be used in a certain case, if it is not all used for that particular animal, the client is at a loss what to do with it. I find

certain case, if it is not all used for that particular animal, the client is at a loss what to do with it. I find that given a man has something by him with some reading on it to give him some idea of its effect, he uses it, and it is surprising what clients will use on animals when they think they know the disease from which the animal is suffering. I think we are to blame for allowing these quack medicines to make so much headway.

With regard to the question of local and general anesthesia. Half of us use anesthetics in their very very mildest form, or only resort to occasional use. I myself hate anesthetics. I hate to use an anæsthetic, simply because it is a matter of which I am terribly afraid. It is perhaps not seeing the constant use of them that has prejudiced me against them, but it is wonderful how long a man can go through a practice without using anæsthetics, either for a dog or any other animal. I must say I have not been enamoured by the use of anæsthetics. We want more experience of their use, and we have not, as far as I know, got a proper anæsthetic instrure that is without danger. I remember one case of an old pony. I carefully anæsthetised the pony for dividing a tendon. I got my operation done very nicely, and got everything bound up nicely, and when I looked round I found the pony was dead.

As to the food of pigs, and horse food: I can only reiterate the expressions of people one meets in daily

chloral hydrate. This is useful certainly; but to my mind in certain affections it does not take the place of opium, and our patients will have to put up with the loss of it-for it is evident that we cannot pay £4 6s. for opium to use as a tincture. I shall be very pleased if

anyone can give any suggestions for substitutes.

I am greatly obliged to you, Mr. President, for your address, and, having occupied the chair last year, I trust you will find the members as ready to receive anything

you have to say as they were with me.

(To be concluded)

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918 :-

•	basseriptions for form.				
	R. J. Forrest, Capt. A.v.c.	£1	1	0	
	G. A. Kelly, Capt. A.v.c. (1915, '17, '18)	3	3	0	
	A. G. E. Lalor, Capt. A.V.C.	1	1	0	
	A. S. Macqueen, Glasgow	1	1	0	
	G. Moir, Capt. A.V.C.	1	1	0	
	W. R. Neale, Maj. A.V.C.	1	1	0	
	A. C. Newsom, Col. A.V.S., C.M.G.	1	1	0	
	S. H. Nye, Loughton	1	1	0	
	C. Pack, Lymington	1	1	0	
	A. Porritt, LtCol. A.V.C., T.D.	1	1	0	
	A. A. Pryer, Capt. A.V.C., D.S.O.	1	1	0	
	W. W. Reekie, London	1	1	0	
	G. Rees-Mogg, Maj. A.v.c.	1	1	0	
	J. J. M. Soutar, Capt. A.V.C.	1	1	0	
	P. S. Sparling, Capt. A.vc	1	1	0	
	Previously acknowledged	703	17	0	
	P	791	11	0	

£721 14 0

ARMY VETERINARY SERVICE

War Office, April 25.

With reference to the awards conferred, as announced in the London Gazette dated January 18th, 1918, the following are the statements of service for which the decorations were conferred :-

Temp. Capt. F. C. GILLARD, A.V.C., when his horse lines were heavily bombed by hostile aircraft he rushed there and personally dressed every wounded animal, though at least fifty bombs dropped in or near the lines.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, April 26. REGULAR FORCES. ARMY VETERINARY CORPS.

Maj. (actg. Lt.-Col.) J. J. Aitken, D.S.O., retains the actg. rank of Lt.-Col. on alteration in posting (Aug. 30, 1917) (substituted for the notification in the Gazette of

Temp. Lieuts, to be temp. Capts.: -H. W. A. Zealand, J. N. Ellah (Apl. 11).

Maj. W. Jowett, F.R.C.V.S., from S. Afr. V.C., to be temp. Maj. (Apl. 9).

Temp. Lt. to be temp. Capt. :- M. I. Farrell (Apl. 11).

Temp. Lts. to be temp. Capts.:-T. Bowlas, W. Neilson _(Apl. 16).

May 1. Temp. Capt. K. Barker relinquishes his commission on acct. of ill-health contracted on active service (May 2)

Temp. Lt. to be temp. Capt. :- J. E. Pottie (Apl. 18). May 2.

Temp. Hon. Capt. to be Temp. Capt.:—P. R. Thompson (Apl. 12).

To be temp. Lt.:—G. J. Harvey (Apl. 18).

The following casualties are reported:-

DIED OF WOUNDS-Capt. H. McC. Johnston, A.V.C., attd. Dragoons.

TEMPORARY A.V.C. OFFICERS AND THE COUNCIL ELECTION.

To the Editor of "The Veterinary Record."

Sir,-Officers of the A.V.C. are, in the interests of dicipline, prevented from criticism of the organisation

of the Corps.

Temporary A.V.C. officers are the chief section of the profession at present but have no representative on the list of nominees for election. Therefore, will all the civilian nominees study, with an up to-date Army List, the present position of the Temporary Officers, as regards rank and scope, as compared with the permanent officers of the A.V.C., and also publish their views as soon as they can as to whether the country is making the most out of the professional experience of its temporary A.V.C. men in this long world war, and, if not, what remedies they will, if elected, urge the R.C.V.S. Council to recommend to be taken. Temporary officers will then have a guide as to whom to

TEMPORARY.

[May 16 is latest date for nominations for Election to Council.]

OBITUARY.

J. Hammond, M.R.C.V.S., Bale, Briningham, Norfolk. Graduated, Lond: May, 1852.

Mr. Hammond died 22nd April, 1918, aged 88.

W. H. Hughes, M.R.C.V.S., 36 Mansell St., Swansea. Lond: April, 1876.

Death occurred February, 1918.

Personal.

NEW ANGLESEY JUSTICE.—Col. T. E. I. Lloyd presided at yesterday's sitting of the Llangefni Magistrates; Mr. (). Trevor-Williams took his seat as a magistrate for the first time in the Court, having qualified at the Quarter Sessions the previous week. Mr. Trevor-Williams, who is a veterinary surgeon, has taken a prominent part in the public life of the town. He has been a member of the U.D. Council for twenty years, and Chairman of the same for two years. He is a Governor of the local County School, and a member of the local Tribunal and the Food Control Committee. He is the founder of the N. W. Vety. Medical Association which held its first meeting at Llnngefni in 1900. He was a member of the Hon. Veterinary Examiners at the London Hackney Show in 1912.-- The Liverpool Daily Post and Mercury, April 16.

Ineffective Sheep Dips.

From a report recently submitted by the Chief Constable at the half-yearly meeting of the Perthshire Local Authority, under the Diseases of Animals Acts, it was learned that there had been 17 outbreaks of sheep scab since August, and that in 15 of these cases the disease had been confirmed. In several cases farmers had been prosecuted for failure to notify cases.

The Chief Constable reported that during the past had the part and the past and

half-year he had had 24 samples of dip taken from the dipping baths and analysed, and in ten of these cases the Board were of opinion that the samples were ineffective. The Committee resolved to recommend to the Board

that the Sheep Dipping Order be made to specify in the case of arsenical dips the quantity of arsenic, and in the case of tar product dips the quantity of tar oils and tar acids which an effective wash should contain. They also resolved to ask the Board what steps were taken to see that the dips approved by them were kept up to the required standard.

There were eleven cases of anthrax reported. The Chief Constable in his statement pointed out that this was the smallest number of such cases for many years, and that, in view of previous controversies as to the cause of this disease, it was interesting to note that during the period under review there had been a general shortage of imported feeding cakes.—N. B. Agric.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

			Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Sheep Scab.	Swine Fever.		
Period.		Out- breaks (a)	Ani- mals.	Out- breaks (a)	Ani- mals. (b) Out- mals. Out- breaks mals. (b) Ani- breaks (b)	Out- breaks (a)	Slaugh- tered.							
GT. BRITAIN.	ook ond	led Apri	1 97	4	4			1	1	88	129		40	8
,,,	ek end	led Apri	1 21	-	4						120		40	
Corresponding week in	{	1917 1916 1915	 	9 14 12	10 14 12				2	46 36 32	92 69 67	6 4 5	83 116 94	58 326 448
Total for 17 week	s, 1918	•••		113	128			14	36	2230	4315	222	323	114
Corresponding period in	{	1917 1916 1915		229 221 267	263 260 297	1	24	10 21 11	19 62 16	1200 1162 ‡193	2523 2824 ‡447	348 165 143	840 1523 1275	344 4691 5546

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities.
Board of Agriculture and Fisheries, April 30, 1918

+ Counties affected, animals attacked:— London 1

Excluding outbreaks in army horses.

IRELAND Week ended	April 20			 			Outbreaks 1	4		
	1917			 				10	14	199
Corresponding Week in	1916			 				6	6	58
	1915	ļ		 	•••		2	7	9	15
Total for 16 weeks, 1918	***	1	1	 			55	148	7	27
	(1917	2	2	 ***	1	1	16	184	91	681
('orresponding period in	1916	1	5	 			28	196	91	481
	1915	1 1	1	 • •••	1	3	15	209	87	480

Department of Agriculture and Technical Instruction for Ireland. (Veterinary Branch), Dublin, April 22, 1918

IRELAND. Week ended	April	27			 			Outbreaks 2	3		
Corresponding Week in					 				9	17	81
					 			i	4	8	49 87
Total for 17 weeks, 1918			1	1	 			57	151	7	27
Corresponding period in	1916		2 1 1	2 5 1	 	1 1	1 3	16 28 16	198 200 213	108 100 95	742 530 567

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 29, 1918.

Note.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1557

MAY 11, 1918.

VOL. XXX.

SCHEDULED DISEASE.

Last week the Board of Agriculture completed the returns of scheduled disease for April; and we now have four months figures to review. With one notable exception, the report can fairly be called satisfactory

No case of foot-and-mouth disease has occurred; and we cannot be too grateful for our long immunity from this disease. The last outbreak was a little over two years ago, in the first four months of 1916.

Anthrax has dropped to scarcely half last year's figures—113 outbreaks against 229. A number of different causes have probably contributed to this; and one of them may well have been the shortage of imported feeding cakes, which was alluded to in a report from Perthshire last week, and seems a point well worth following up.

Glanders shows a slight increase upon last year —14 outbreaks against 10—but this need not concern us. Very possibly the severe spring and bad food conditions may have developed a few cases which might otherwise have remained latent—an advantage in the long run, of course.

Sheep scab has declined considerably—222 outbreaks against 348 last year, and the outlook seems hopeful, though much still remains to be done against it. Swine fever has fallen much more, as there have been only 323 outbreaks against 840 and 1523 in the corresponding periods of 1917 and 1916 respectively. In these 323 outbreaks only 114 animals were slaughtered, which illustrates one of the advantages of the present policy of inoculation. The column devoted to swine fever is perhaps the most hopeful one in the whole report.

The one remaining disease forms the only unsatisfactory feature of the report. Parasitic mange is not far from double last year's figures—2230 outbreaks against 1200. Probably the whole explanation may be summed up in one term, "war conditions," and, as these or something approaching them are likely to prevail for a long time yet, the outlook upon equine mange is disquieting.

With this one exception, which, disquieting as it undoubtedly is, relates only to one of the less serious scheduled diseases, the figures are encouraging. We should like to see a better position regarding sheep scab, but there seems good hope of that before long. On the whole, the Board continues to hold scheduled disease in check in the most difficult period of its history, and that it should be succeeding so well reflects no small credit upon the staff.

At the moment of going to press a copy is to hand of a new Order, dated May 7th, "Parasitic Mange (Amendment) Order of 1918." Comment must be infected. deferred until next week.

A NOTE ON DOURINE.

By Colonel H. T. Pease, C.I.E., V.D., I.C.V.D., Principal, Punjab Veterinary College, Lahore. [Abridged.]

(Concluded from p. 450.)

Diagnosis. As may readily be gathered from what has already been said, there is great difficulty in diagnosing some cases of chronic and latent Dourine, and owing to this fact the control and eradication of the disease has always been a troublesome business. In dealing with them it is the custom to trace the disease so far as is possible to its origin and then to keep under observation all mares and stallions which directly or indirectly have been exposed to the disease. Animals which show clinical evidence of the affection are either at once destroyed, or so dealt with that they are no longer used for stud purposes.

for stud purposes.

The ideal proof is the microscopic demonstration of trypanosoma equiperdum. But this is generally difficult and sometimes an impossible task; it often requires a prolonged period of isolation and observation and can only be undertaken when horses can be kept under control. This is generally possible with good horses in India.

At the same time a very great deal of experience is necessary before one can, from the sometimes slight traces visible, diagnose the disease. It was in view of this difficulty that I made a recommendation to the Board of Scientific Advice that the Imperial Bacteriologist be instructed to ascertain whether the complement fixation test devised by Mohler, Eichorn and Buck and adopted in America could be carried out successfully in India. This test is, so far, the only one known which is likely to be of use for the diagnosis of occult cases of Dourine. It has been adopted in America and it is reported that in the numerous cases which have been tested the results were almost invariably definite and only on very few occasions has it been found necessary to make retests on cases which appeared typical.

The reaction obtained is well marked.

Mohler, Eiehorn and Buck, in 1914, stated that since testing was undertaken by the method described, 8657 samples had been examined from the Montana, Cheyenne and Standing Rock Indian Reservations in North America. Of these 1076 gave positive reactions, which appears to be a very large proportion, but when it is remembered that the animals were kept under range conditions, without sanitary or veterinary control, and also that before the disease was recognised as Dourine, it had been diagnosed for a long period as some other affection, it will be apparent that the opportunity for spread was ideal.

If the test proves reliable in India all breeding animals which have been exposed to the infection, should be submitted to it

Mode of contagion. In an ordinary way the disease is transmitted during the act of covering. All mares which are covered by a diseased stallion are not infected: in an experiment it was found that of fifteen mares covered by the same diseased stallion only ten were infected.

Transmission is undoubtedly favoured by abrasion of

the mucous membranes of the diseased and the healthy animal. Much also depends on the presence of the trypanosomes in the cedematous parts in considerable numbers at the time of covering. The swollen cedematous penis is readily abraded, infected by a diseased mare.

The stallion is naturally the more prolific means of spreading the disease.

spreading the disease.

Experimentally, subcutaneous inoculation of the blood and cedema containing the parasite, causes the disease, and in such cases the incubation varies from seven to twenty days as the parasites are numerous or faminthe material used.

seven to twenty days as the parasites are numerous or few in the material used.

Course and termination. The disease in India seems to differ very little from that seen in other countries. It may run a fairly rapid course terminating fatally in a few months, but as a rule the progress of the disease is slow and chronic. It appears that country-bred horses are not quite so susceptible as imported ones and that the mortality is less in India, being 40 to 50 per cent. against 70 per cent. in Europe.

Of four stallions which died in the Veterinary College in Paris the time taken was 11 months, 20 months, 23 months, and 26 months respectively.

in Paris the time taken was 11 months, 20 months, and 26 months respectively.

Viardot, who had much experience in Algeria, concluded that weakly animals died in from four to eight months, but that it varied greatly according to the constitution of the animal attacked and to the severity of the attack. In twelve stallions the average period was 91 days, but strong, well-fed young animals lived from a year to three, four, or even five years.

In Lingard's fatal cases, three mares died in 75 days, six and seven months respectively.

In India we have cases on record in stallions in which the disease is still in an active state more than three years after the first symptom. Many cases run a very long course, especially if animals are kept under good conditions and not allowed to cover.

Abortion. Fleming states that diseased mares which

Abortion. Fleming states that diseased mares which have conceived usually abort towards the third or fourth month of gestation. Should the full term of pregnancy be reached the foal produced is dwarfed, badly formed, and either dead at birth or dies soon after.

It is generally found in India that where the disease is prevalent abortions are of some account.

It is generally found in India that where the disease is prevalent abortions are of common occurrence. Healthy foals are occasionally born from mares affected with Dourine. Higgins, in Canada, reports that three mares in the last stage of Dourine have given birth to apparently healthy foals, and three other mares found to be affected with chronic Dourine had young foals at foot. He considers that abortion is a rare event, occurring only in advanced cases where there is emaciation and loss of co-ordination of muscles of the hind quarters.

Mortality. In one instance 107 mares were served by

loss of co-ordination of muscles of the nino quarters.

Mortality. In one instance 107 mares were served by diseased stallions. Out of this number 92 were infected, diseased stallions. Out of this number 92 were infected, 54 died, and the majority of the others had not recovered their health a year afterwards. At Tarbes, out of 750 mares put to diseased stallions 107 became diseased and 52 died. In another stud of 150 marcs covered by infected horses 58 were infected and 40 died. In another instance, out of 321 mares the loss was 160, and of 14 stallions 10 became infected and five died. It will be seen that in other countries the loss is variable though always serious, seldom less than 50 per cent., often more in horses kept at work, covering mares. in horses kept at work, covering mares.

In norses kept at work, covering mares.

[The note contains a further review of the pathological manifestations of the disease: instructions, in force in Algeria, for examination and isolation: a copy of the Act (V of 1910) in force in India, of which Col. Pease remarks, "it errs on the side of caution. An experienced man should be trusted to diagnoss, Dourine without demonstrating the parasites, which is often not possible." There are 10 photo-illustrations of diseased conditions. conditions.].

NORTH MIDLAND VETERINARY ASSOCIATION. [NATIONAL V.M.A.—NORTHERN BRANCH.]

(Concluded from p. 453)

(Concluded from p. 453).

Mr. R. Hudson: With regard to the feeding of horses, I think a good deal might be done in raising the quality of some of the foods we do use. For instance, hay. The feeding value of hay could be raised to a considerable extent by cutting it at an earlier period, before the seeds are shed. The food value can also be increased considerably by proper tillage. Two which are available—lime and basic slag—are not really expensive, and applied to the land would undoubtedly increase the food value considerably. I think the President referred to the unsuitability of some of the foods, which are being used, which produce skin trouble and lice. That has been the case in my practice, and I think these feeding stuffs might be helped by feeding roots where available. I think something should be done to prevent horses which can do useful work from being killed for human food.

I think I might class myself amongst those members I think I might class myself amongst those members of the profession who have never been great drug users, or at any rate, not been a user of expensive drugs. Of course we all have to use them; but there are many cases in which simpler drugs could take the place of the more expensive ones. This would save a considerable amount of money in tinctures in alcohol, which is, of course, an expensive item now. Liquid extracts will play an important part in the future, and can be used in much smaller doses than many of the tinctures at present in use.

much smaller doses than many of the thickness as much, or present in use.

In am troubled with quack medicines as much, or perhaps more than any town practitioner. When I first went into practice, the practice was provided with labels, and medicine was bottled, labelled, and dispensed on a scale quite equal to any quack medicine on the market, and I do not think any practice has been hit harder, for the simple reason that clients had been hit harder, for the simple reason that clients had been hit harder, the same along the quack medicine, and where they beat us was in touting. They went round from farm to farm and touted for orders. Until we can do this we shall never beat the quack. Should try or not is a doubtful question. I think the should try or not is a doubtful question. I think the quack has come to stay, and unless we can beat him by going round from farm to farm we shall never oust him.

With regard to the publishing of "Secret Remedies," judging by the advertisements in the papers, I do not think it has done very much to aid the medical profession. I do not know what medical men's views are fession. I do not know what medical men's views are, but I think there is as much quackery in the medical profession as ever there was.

but I think there is as much quackery in the medical profession as ever there was.

With regard to anæsthetics. Like Mr. Fletcher, I do honestly say that I hesitate to use a general anæsthetic of any sort. I never do so without some doubt, or some fear, that some unsatisfactory result is going to follow. Although I have used a general anæsthetic—Chloroform—pretty freely, I have only had one accident, which happened to be in the case of a very good horse. Except in that case I have never had any definite reason to be afraid of its use, but still I am afraid. I think it is no one veterinary surgeon's work to operate and give an anæsthetic at the same time. That is the difficulty we have to contend with. To get a muzzle sufficiently safe for an amateur to give the anæsthetic while you operate is a tall order, and until we do, I do not think we are justified in giving an anæsthetic and leaving anyone to look after the patient.

I have had a good many tries to find something which one could give either intravenously or hypodermically

to relieve pain, either for large operations or for small operations. So far Cannabis Indica has been the best I have tried, and I think it will be reliable when we know the exact dose to administer. It has done well for me but it does not give a total freedom from pain during the operation. I have carried out experiments to see how much should be used, and I find that a considerable quantity can be given without danger. I gave a mare first 10 c.c. of it without any effect. She went on feeding without any apparent trouble. jumped from 10 c.c. to 4 drms, within about two hours, and she slept for two days. It took about three or four hours to get her well under. I do not know of any illeffects. The injection into the jugular sometimes creates a little swelling, but I think it is due to the injection getting under the connective tissue between the neck and the jugular vein, but I have never known an abscess to form. The inflammation has always cleared away in a few days, and that is the only trouble I have had. I have used it in milk cows with considerable advantage.

As to local anæsthetics, I do not think, with the exception of the dog, we need fear the injection of cocaine in any animal. To give you an instance of what may be done—only the other day I did tenotomy standing with no other anæsthetic than a 5% solution of cocaine. I do not think the pony had any pain, for he stood and never flinched. I have done it before, in the case of a blood horse, also under cocaine. I would rather do it standing than with them cast. One has a better feel of the tendon, knows what one is doing, and

knows what effect is being produced.

I thank you, Mr. President, for your very interesting

address.

Mr. C. SECKER SMITH: The one part of your address, Mr. President, for which I wish particularly to thank you, which takes the most of my interest, is the feeding of horses. It is a question which has caused me a certain amount of anxiety and worry, because the last month or two I have been asked by several of my colliery clients with regard to the ponies. When the rationing scheme for horses came into force one of my collieries decided that they would, as far as possible, ration their ponies according to the scheme. This meant a big reduction on what the ponies had been getting, and the manager told me that they would give the scheme a trial for a couple of months. At the end of that time they wanted me to make a careful examination and to give an opinion as to whether they could work on the rations without detriment, or whether the rations were too little. At the end of two months I made an inspection, and I am bound to admit that where the pony had reasonable work (that is ordinary shiftsthe ponies which work double shifts were not in such good condition) the condition was nothing to complain about. I may say that in this particular case, in addition to the usual run, they had added Bibby's meal. It was a colliery which before the war usually used to have a fair amount of molassine.

Another colliery firm asked me a few days ago to examine a sample of hay, and, of course, whenever I am asked for an opinion like that I am always suspicious that they are trying to pull my leg, but in this case they were perfectly honest. They said it was a sample of Government hay which had been sent to them. After I had examined it I told the manager that in my opinion it was absolutely no use trying to use that hay, for the ponies would never eat it. It had all the dirt in, and was fusty. The next question they put to me, which I have not been able to answer satisfactorily up to now, was, If we cannot get hay what are we to substitute for it? I personally cannot find a really proper substitute for hay, because as rations are at the present time, in my opinion, hay is the chief thing we have to

substitute for it I shall be very pleased to know of it. I thank you, Mr. President, for your very interesting address.

Mr. M. Robinson: Prior to rationing I always recommended clients to give pit ponies 8 lb. per day. I had trouble at one pit, and when I asked the manager what amount of food had been knocked off, he said, 1 lb. per day. I then asked what the ponies were getting, and he replied, 6 lb. - one pound having been knocked off some time previously. On being put back on the original amount of food the ponies quickly recovered.

Mr. J. S. Lloyd: I think a good "stand-by" is what

is called dredge corn. In the spring farmers sow oats, rye, peas, beans, and vetches—I do not know the quantities-and cut it about the first week in July, and harvest it like hay. The difficulty is that with a large number of ponies, as at a colliery, a big farm is neces-

Mr. Hudson remarked that if one gets a good hay, that is, a hay of good feeding value, only about half the

quantity of corn is required.

Mr. S. E. Sampson: Mr. President,—I must say how sorry I was not to hear your address. I have just read it through, but that is not the same as hearing it. I must also say how pleased I am to see you in the posi-which you occupy to night, and I hope we shall have a

very pleasant year.

One point has struck me, and that is, the feeding of cows. I am living on the outskirts of Sheffield, and seeing vast quantities of land that is going under the plough, I am at a loss to know how the cow, that is, the milking cow round our large cities, is going to be fed during the summer. I am glad that the growing of green crops is recommended. Mr. Lloyd's suggestion would perhaps answer in that way. I remember that when I was a lad at home we used to grow a green crop, and then use the land for turnips. The green crop was cut before the cows went out to grass, and had it carted to them to make up their supply of food. I think if this could be done it would help us with the supply of milk.

The chop question is becoming a very acute problem. When one sees bean straw chop put for horses to eat, I think, gentlemen, we are getting to the far end of Chop nowadays I think is one part bean straw, one part Cambridge straw, one part straw, and one part hay. I do not quite understand what Cambridge straw is. Possibly, as someone suggests, it is pressed straw.

Looking through The Record last Saturday, I saw the

Presidential address of Mr. Brown, of Aberdeen University, and, gentlemen, those who have not heard Mr. Brown give an address have missed a treat. In his address he made a suggestion which I think is well worth consideration, not particularly for our Association, but for the county or any large district—that is, there should be some central place where a critical operation could be performed, and the patient put under the best possible conditions for recovery. One knows that one may use all one's skill at a farm, and all efforts are wasted because the animal is not under proper surroundings, and the attendants, who may try their best but who are not trained men, do not know what to do in an emergency. I think that if the suggestion could be brought to a practical conclusion it would be a great help. I think the high price of stock will be main-tained, and if we can show the public that we are prepared to take on these critical operations, it would bring a certain amount of kudos to our profession. I think if this could be done, it ought to be on neutral ground, as long as it is under the control of someone who knows what ought to be done. If it could be done we should derive a great deal of advantage from it. We have a number of gentlemen in this Association who are keen on operating. I have a case now which I would not depend upon; and if any gentleman can give me a good dream of operating on at a farm and leaving it to the skill of the farm attendants, because I think they are not able to notice little details or to take such action as will produce the best results. If one could have the will produce the best results. It one child have the animals under observation and secure a recovery in a short time, the expense would be justified by the shortened time in which the animal is not able to work. If we do not, but go on in the old way and not launch out into new schemes, we shall perhaps eventually degenerate to the level of the old times.

REPLY.

The PRESIDENT: I thank you for the very kind way in which you have received my address, and also for the remarks you have made on it. I purposely only touched upon these subjects in order to get the opinion of the members present, and I think, to a certain extent, I have got to know a few things which I wanted to

When I mentioned anæsthetics, I did not exactly mean chloroform. I was wanting to know whether any members had been using intravenous and hypodermic injections. It is very difficult for a country practitioner Injections. Its very dimention of a country practitioner to give a general anæsthetic. You gentlemen in towns have the opportunity of getting a brother practitioner to go along with you and assist you. I have not used Cannabis Indica, but during the last few months I have used an injection of chloral hydrate. The first case I tried it on was a two-year-old cart colt. I used it intratried it on was a two-year-old cart colt. I used it intravenously and it had no effect. I gave him another injection and he went down. He was not what one would call absolutely under control for operating freely. The next case I had I gave 2 oz. of chloral hydrate, made up to 4 oz. with water. The animal went down in a very few minutes and laid quietly. I was an hour over the operation. He went down at 10 o'clock in the morning, and was down till 4 o'clock. I think there is big scope for trying these intravenous injections, and getting to know the proper dose to give. Up to the present I do think they have been tried sufficiently to give us the proper dose. As to after effects, I have found none at all.

I principally brought the subject of horse tood for-

all.

I principally brought the subject of horse tood forward to get a few opinions. I, like my friend Mr. Smith, have had numerous questions asked with regard to food of pit ponies, and at the preeent time some of my clients are buying stuff which looks like the husks from malted barley. It looks, and smells, just like the outside coating of malt.

This last week I have been asked with regard to Molassine meal. I have not had any experience of this as a food. I was wondering if anyone could give me any

as a food. I was wondering if anyone could give me any idea of the best quantities to give with pit pony food. For a very long time we have not been using oats at all. We have been using split maize, rye, and bran. The pits I am speaking about are very deep and very hot: one is 720 yards, and the other 820 yards deep. They are very hot, and the tubs in use are of metal; I should think they weigh 6 cwt., and each tub will carry 12 cwt. of coal. The ponies run from 12-3 to 14 hands. These ponies pull from 3 to 8 or 9 tubs. They are working double shifts—that is, 16 hours out of the 24. We have provided corn bins and water so that they can get a little to eat whilst working. The ponies are so tired when getting to the standing that they do not take sufficient time to get their food. As far as I can see the ration is not sufficient. Our ponies have run off considerably. In fact they are getting very, very poor. Of as a food. I was wondering if anyone could give me any

is that it acts very well to bring a pony into condition. One client, who had polo ponies, after having turned them out to get them into condition always used to give them Molassine, and found it very effective. The great objection I have is that in the majority of cases where Molassine is given, when you drop it the pony will lose a lot of condition before it begins to take food properly again.

again.

Mr. M. Robinson: I am of opinion that although Molassine improves the condition of the pony, it acts like a drug, and when it is stopped the pony misses it and will not feed properly.

Mr. H. Thompson related some of his experience with Molassine, and its supposed effect in the eradication of worms. As to bran, he said: "I have one stud of 45 horses, to which we gave no bran at all for seven months, and there were checked. and they were absolutely free from colic, and there was no case of stoppage. I think this is conclusive that the use of bran is not altogether good. The animals were fed on a mixture of meadow hay, oats, and maize. They were heavy horses, getting about 16 lb. of corn per day."

were neavy noises, seems a case in which the day."

Mr. T. C. FLETCHER: I remember a case in which the horsekeeper was a great believer in the Saturday night bran mash. They never had so much trouble and never lost so many horses from stoppage and bowel troubles as during his time. It often struck me that this man was producing the disease I was troubled with. During one Whitsuntide we lost three from twisted bowels and intestines. This caused us to look for the cause of all the bowel trouble. I then gave the horsekeeper instrucone Whitsuntide we lost three from twisted bowels and intestines. This caused us to look for the cause of all the bowel trouble. I then gave the horsekeeper instructions that he was to give the animals the usual food on Saturday nights, but to give them less of it, with a little more hay; then the bowel trouble I was constantly in attendance for ceased. I wonder if anyone has had experience of the over supply of hot bran producing anything of the same nature. thing of the same nature

Mr. H. Thompson: I have had similar experience to that of Mr. Fletcher in one particular animal. On Saturday evenings I used to have to attend this horse for colic. I stopped the bran mash, and the colic

immediately ceased

immediately ceased.

Mr. Thompson also spoke of the good effects of steaming the food.

Mr. M. Robinson referred to a stud of horse where the owner steamed his chop. The owner was rather proud of his steamer. In this particular place they were always troubled with colic. The horses were always fed in the evening. The owner was advised that he would either have to give up the steamer or feed the horses at mid-day. The steamer was discontinued, and there were no cases of colic for two or three years.

Mr. W. Murgatroyd referred to an arrangement

Mr. W. Murgatrovo referred to an arrangement adopted by one of his clients for the feeding of pigs. What struck him was the great amount of yeast in the

food.

SWINE FEVER SERUM INOCULATION.

mr. Lloyd: Mr. President and Gentlemen,—I have not prepared a paper, but what I did intend to do was provided corn bins and water so that they can get a little to eat whilst working. The ponies are so tired when getting to the standing that they do not take sufficient time to get their food. As far as I can see the ration is not sufficient. Our ponies have run off considerably. In fact they are getting very, very poor. Off course, with some ponies it does not seem to matter, however much they are worked they will always be fit. They people want Molassine meal to take the place of corn. I thank you, gentlemen for your comments on my address.

Mr. Hudden and Gentlemen,—I have not prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to great paper appear of a paper. But what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was pread a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper, but what I did intend to do was prepared a paper. Mr. LLOYD: Mr. President and Gentlemen,-I have

I will run through the cases :-

No. 1. I may say this is the first case in which I applied the treatment. There were 15 pigs altogether—six in a garden on one side of the cartway, and nine on the other side of the cartway—belonging to the same owner. On the one premises the swine fever was prevalent and the six pigs were inoculated; and on the opposite side there was no swine fever, and the nine pigs were not inoculated. In the animal which had died there was a swine fever ulcer in the stomach

Out of six pigs injected five did well. One developed an abscess at the seat of operation, and that was killed by the owner. I satisfied myself that the abscess was due to infection at the time of inoculation. The pigs were in a very dirty state. I took the usual precautions and washed the seat of operation, but there was no guarantee that there was no infection afterwards.

No. 2. There were 55 pigs on the premises belonging to three different owners. In the first case the dead animal showed swine fever ulcers in the account and in colon. There was one sow and eight pigs belonging to this man, all were affected, and they were slaughtered and compensation paid. Eleven healthy pigs were fat and sold for slaughter.

Twenty-three pigs were inoculated, and a second time in three weeks. Several of these died during the succeeding three months, leaving 13 pigs. One died later, leaving 12; and of these, nine were released, and three

The second owner had ten pigs, and these were all slaughtered by the Board of Agriculture as diseased pigs and compensation paid. There were two other pigs on the premises belonging to the third man. One developed swine fever and was killed, and the other one became ill and subsequently died. Whether this one was infected at the time of inoculation I am not prepared to say, because there was infection on the premises all the

No. 3. In this case there were 91 pigs on the premises. In the deceased animal there were lesions in the colon. There were 13 pigs in the same stye.

Ninety pigs were inoculated. Two of the 13 which were left in the infected stye died, and one pig had to

be killed owing to an accident. He was not affected. Eighty-seven pigs re-inoculated ten days later, and the third inoculation was done 12 days later still. All did

My idea of the value of inoculation in this particular case was this. The animals had plenty of attendants, and immediately the first pig died the whole place was thoroughly cleaned, lime-washed, and disinfected, and everything was done that could possibly be done to prevent infection, and the men who fed the pigs in the infected stye were not allowed to attend to the others. The reason the second and third inoculations were made was this: when making my inspection about ten days after the first inoculation I noticed the pigs were red in the skin. I reported that to the Board, and they immediately sent me a wire to go and inoculate them. found the same condition, more or less, when paying the visit after the second inoculation, and the Board immediately said, "inoculate again."

No. 4. In this case pigs were inoculated owing to swine fever being suspected. The disease was not confirmed. The inoculated pigs did well.

No. 5. Five pigs on the premises. The dead animal showed ulcers in the cæcum. Four pigs inoculated. Two died in 10 days, and the last pig died 18 days later, all four being dead within 28 days.

No. 6. Six pigs on the premises. The one dead did not show sufficient evidence. Another one slaughtered. Four inoculated. Reinoculation ten days later. One died a month later. The other three did well and were later, and the other did well.

released. On what the Board calls "contiguous premises"—premises in the same place but not in the same occupation, were 10 pigs. All were inoculated and did well. In this particular case all the pigs were under the same roof, there being only a brick wall separating them.

No. 7. Sixteen pigs. Four dead with swine fever. One also had tuberculosis. Twelve inoculated. Ten days later six porkers out of the 12 inoculated had been slaughtered for food. One of the other six died. died of swine fever subsequently, except one, and that was killed for human consumption.

No. 8. Ten pigs on the premises, two with swine fever, 8 inoculated. A week later one died, and three died three days later. One died a few days later still. Three pigs were reinoculated, and did well

No. 9. Six pigs on the premises. The test animal had a small ulcer in the colon. Five were inoculated and did well.

No 10. Six pigs on the premises. Three died, or

were killed, with swine fever. Three inoculated.

There was something peculiar about these pigs. In the case of the first pig that was killed the disease was not confirmed. Swine fever ulcers were found in the colon of one of the other two pigs. As a rule pigs with swine fever when you get to them are sufficiently bad to show symptoms of diarrhea, but this pig was constipated. All the pigs inoculated did badly and had to be slaughtered, two of them with rickets, no swine fever being found in either of the three.

No. 11. These were contiguous premises, there being 20 pigs belonging to four owners. The pigs were inoculated, and all did well except one lot (case 13). The owner of the first affected pigs did not have his pigs inoculated, but killed all off.

No. 12. Eight pigs on the premises. The dead animal, a sow, had one large ulcer in the colon. Seven were inoculated. Seven days after inoculation one died, the next day two died, and one was dying. Two were very bad with swine fever. One had been bad and was

better. The one pig died, and the other three recovered.

This is the best case of the benefit received from serum I have seen. The pigs which recovered were drunk and tumbling about the place, and looked certain

No. 13. Fourteen pigs on the premises. Sow showed old standing swine fever ulcers in the stomach and cæcum. There were two stores on the premises in good condition, which were killed for food. There were 11 suckers with the sow which had to be taken away from her. They were inoculated, and all did well. They were removed from the infected place to a wooden building in a field

The history concerning the last three cases is interesting.

The 12th case was a sow and seven pigs, where the three recovered and did well.

When I went to the first case (No. 11) where the pigs were inoculated, the sow that had the disease in the next case had only left the premises four days previously. I did not know that the sow had been on the premises so recently, and I only took it that she bad been with the boar when the pigs were moved. The owner had taken her to be served by the boar, and he had left her there till two months later. When his pigs were first noticed ill the owner of the boar wanted her moved, and she was taken away. I only discovered this after making enquiries as to the movements of pigs on the premises.

No. 14. Three pigs on the premises. One died with swine fever. two were inoculated. One died four days

No. 15. Sow and ten pigs. The test animal showed indefinite lesions of swine fever. Serum given to ten. One died with swine fever ten days later. The others were reinoculated and did well.

No. 16. Twenty-nine pigs on the premises. The dead animal showed swine fever. Eight fat pigs were killed and 20 stores were inoculated. One died five weeks later showing old-standing swine fever ulcers. Nineteen were again inoculated. Another died a month later, the death being due to a foreign body. There were no swine fever lesions present. The others did well

No. 17. Six pigs on the premises. The dead animal had ulcers in the cocum. Five inoculated and all did

No. 18. Eighteen pigs on the premises. One dead and one slaughtered. No definite swine fever ulcers, but the disease was confirmed by the Board. This was a surprise to me. It was, however, certainly suspicious. On the premises were two boars, which were not inoculated. Fourteen stores were inoculated. All did well except one, which was killed for human consumption as it was supposed to be ruptured. When the "rupture" was opened it was found to be an abscess. I think this is my second case of infection through inoculation.

inoculation.

No. 19. Four pigs on the premises. Two died. There were no definite swine fever ulcers, but again the disease was confirmed. Two received serum and did well.

No. 20. Thirteen pigs on one premises and 22 on another, belonging to two owners in partnership.
(a) On these premises were 13 pigs. One pig was dead, showing old-standing swine fever ulcer in the stomach. The case was not confirmed.

The 12 fellow pigs were slaughtered and found to be free from definite swine fever ulcers, but had lung disease and blood spots. At that time the disease was not confirmed, because there was only one pig showing ulcers in the stomach.

(b) On these premises there were 22 pigs. Four pigs died. No definite swine fever lesions, but three others were ill and one of them died the same night. Two others died the next day.

Fifteen pigs were given serum. One died, and one was killed four days later, the latter showing numerous swine fever ulcers in the execum and the colon, and the disease was then confirmed. All the others then showed symptoms of swine fever, and were killed by the owners.

No. 21. Five pigs on the premises. One dead, with old-standing ulcers in the stomach. Confirmed by the Board. The four others received serum and all did

well.

Twenty-six pigs on contiguous premises, belonging to two owners, received serum, and all did well.

No 22. Eleven pigs in infected stye; 31 in adjoining styes. Two were killed out of 11, and swine fever was

confirmed.

Forty received serum. Of the nine pigs in the infected stye five died within 10 days, and the other four were killed, being affected. The pigs in the adjoining premises were slaughtered. This outbreak was on the same premises as where the disinfection was so effectively carried out before (case 3).

No. 23. Sow and nine pigs. The sow, which was killed by the owners, went a bad colour. The owner sent for me, and I found swine fever ulcers of old-standing. The nine young suckers were inoculated, and they all died within eight or nine days.

No. 24. Two pigs on the premises. One died of swine fever—old standing disease. The pigs had been on the premises for three months, and there had never been

any pigs there before. The owner bought these two pigs, and three months later one died with old-standing disease. The other one was inoculated, and he died in a month. In my opinion the first pig had swine fever when he was bought.

No. 25. Three pigs on the premises. One died with old-standing fever and necrosis in patches in the excum. The other two pigs were inoculated and did well.

No. 26. Three pigs on the premises. Definite swine fever ulcers in the dead pig. Two were inoculated, did well and were sold fat for human food.

No. 27. Six pigs in one garden, and nine in another garden, both lots belonging to the same owner.

In the first garden one pig was dead with swine fever, and five others were inoculated. All did well.

The pigs in the other garden at that time were not inoculated. Later, four stores in this second garden were inoculated. All the others died with swine fever. The four which were inoculated did well.

No. 28. Swine fever on premises, which it took the Board ten days to confirm. Twenty-eight pigs. One died, one killed; no definite lesions excepting one old-standing ulcer in the stomach of one of the animals. Altogether 12 died or were killed as diseased in 15 days. rest of the pigs were slaughtered and sent to the butcher.

There were 18 pigs on adjoining premises belonging to be same owner. They were inoculated, and all did the same owner.

No. 29. The dead animal had been on the premises some months and had done badly. There was marked necrosis of the cæcum, but no definite ulcers. Swine fever confirmed. The three fellow pigs were inoculated and all did well.

No. 30. Seventeen pigs on the premises. Five were dead, leaving 12 young stores alive. Swine fever ulcers in two. Septic patchy pneumonia in all, but the disease vas not confirmed.

Twelve were inoculated. Two died four days later; one with a large number of swine fever ulcers in the colon. Then swine fever was confirmed six days after the first visit, and the other 10 were killed by the owner within a week as diseased.

Leaving out pigs on contiguous premises and premises where the disease was not confirmed, a summary of the above cases shows that 342 pigs were inoculated; 209 did well, 82 died or were killed as diseased, three were infected and recovered. Two were killed as the result of abscess infection, and 46 died, or were killed, from other cause

other causes.

The injection is done in different places. If they are young pigs which can be held up you can inject in the muscles of the thigh. If they are medium-sized pigs you can push the pig against the wall, get hold of his hind leg, and hold him so that he cannot go backward or forward, and inject in the muscles of the neck behind

the ear.

The big sows are best inoculated by simply feeding them, and going up behind them and pushing the needle into the muscle of the neck and inoculating them while they are feeding. I have only had trouble with one sow. One has to have a syringe with fairly strong needles.

At this point the President suggested that any discussion or further remarks on Mr. Lloyd's paper had better be postponed to the next meeting. This was agreed to, and the meeting terminated with a vote thanks to the President. Tea was provided by the Sheffield members of the Association.

J. S. LLOYD, Hon. Sec.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:—

H. W. Good, Scarborough	£1	1	0	
E. E. Jelbart, Capt. A.V.C., M.C.	1	1	0	
C. Marshall, Farnham (1916, '17, '18)	3	3	0	
J. Temple, Aberdare	1	1	0	
Ainsworth Wilson, Maj., Edinburgh (1916, '17, '18)	3	3	0	
Previously acknowledged	721	14	0	

£731 3 0

List of Subscribers from British East Africa, 1916, '17 (Total already acknowledged):—

(Toma mirema) mouring with the	cuj.		
Maj. R. J. Stordy, D.S.O.	£2	0	0
Maj. W. Kennedy, p.s.o.	2	0	0
Maj. R. E. Montgomery	2	0	0
Maj. H. Brassey-Edwards	2	0	0
Maj. F. J. McCall	2	0	0
Capt. W. Henderson	2	()	0
Capt. A. W. Carter	2	0	0
Capt. M. H. Reid	2	0	0
Capt. A. E. Webber	2	0	0
Capt. T. C. Bradshaw	2	0	0
Capt. G. N. A. Hall	1	0	0
	£21	0	0

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, May 3.

REGULAR FORCES. ARMY VETERINARY CORPS. Temp. Lt. to be temp. Capt.:—I. C. Maguire (Apl. 1).

May 4.

Temp. Lt. to be temp. Capt.:—W. T. Ferguson (Apl. 20).

May 6.
Temp. Capt. (Bt. Maj.) S. L. Symonds relinquishes the actg. rank of Maj. on ceasing to comd. a Vety. Hosp. (Mar. 1).

To be actg. Majs. while comdg. Conv. Horse Depots:—Capt. J. H. Lockwood (T.F.), Capt. T. A. B. Cocksedge (T.F.), Temp. Capt. H. G. Simpson, F.R.C v.s., Temp. Capt. J. B. A. Hare (Feb. 26).

Temp. Lieuts. to be temp. Capts.:—R. C. Glover, E. S. Pindar (Apl. 23).

To be temp. Lieut. :- B. Gorton (Apl. 22).

May 8. Capt. F. W. Pawlett (T.F.), to be temp. Maj. whilst holding appt. of Dep. Asst. Dir. of Vety. Servs. (Feb. 2).

Temp. Capt. A. S. Black is dismissed the Service by sentence of a General Court-martial (March 2).

May 9.

Temp. Capt. W. Walker relinquishes his commn. on acct.
of ill-health (May 10).

To be temp. Lt.: -F. W. Thompson (Apl. 22).

SPECIAL RESERVE OF OFFICERS.

May 7. Lt. (on prob.) J. D. Haywood is confirmed in his rank.

May 9. Lt. (on prob.) H. C. Driver is confirmed in his rank. TERRITORIAL FORCE, ARMY VETERINARY CORPS.

May 6.

Capt. G. W. Balfour relinquishes his commn. on acct. of ill-health, and is granted the hon. rank of Capt. (May 4).

In the House of Commons, Mr. Parker, Lord of the Treasury, replying to a question, said:—Application of the Cattle Feeding-stuffs Priority Supply Order had been extended to breeding sows and store pigs, the ration being 4lb. per day to the former and 1½lb. per day to the latter class of pig. The whole question of the rationing of animals was now engaging the attention of the Joint Orders Committee of the Board of Agriculture and the Ministry of Food, and it was hoped to secure a small supply of dry food for fattening purposes.

OBITUARY.

F. W. Barling, M.R.C.V.S., Bartestree Court, Hereford. Graduated, Lond: April, 1863.

Mr. Barling died 14th April, 1918.

WILLIAM HENRY HUGHES, M.R.C.V.S., Swansea.

Date of death 20th March, 1918, and not as previously stated. Aged 71.

H. McColl Johnston, Newton Mearns, Glasgow, Capt. A.v.c. (s.r..), died of wounds, 4th April, 1918.

T. R. PRIME, M.R.C.V.S., Westow Hill, Up. Norwood. Graduated, Lond: April, 1876.

Death occurred 6th May, 1918, aged 71.

HENRY BIDLAKE, M.R.C.V.S. Lond: May, 1892, Deceased 6th May, 1918.

H. HAYWOOD JEFFRIES, M.R.C.V.S., Guildford.
Lond: Dec., 1899.

Mr. Jeffries was killed in an accident to motor car, April 25th.

The late Mr. John Hammond an appreciation.

Mr. John Hammond, M.R.C.V.S., was well known throughout North-west Norfolk, where he had carried on an extensive practice, which he relinquished to his son on attaining the age of 70.

He was a man of unique personality—a champion of all that was right, with great determination and will power, and when convinced of the righteousness of a cause, he would fight for it to the bitter end; for there was no "turning back" with John Hammond. Yet withal he had a very tender and sympathetic heart, and was always ready to assist those in poverty or distress.

Overhanging the mantelpiece of his office was the text, "Whatsoever thy hand findeth to do, do it with all thy might." This may be accepted as the motto of his life, for in every detail of his various callings he was intensely thorough.

He was the oldest County Council Inspector in Norfolk, and during the cattle plague epidemic in the early sixties, he took an active part in stamping out the disease. It is stated that he was the first veterinary surgeon in England to detect the existence of rinderpest in sheep. The late Prof. Simonds doubted the accuracy of his diagnosis until a special visit to Norfolk convinced him of the correctness of the report. Then followed a

lengthy paper from the Professor, which contained no allusion to the work of John Hammond.

allusion to the work of John Hammond.

In 1890 he came into conflict with the Veterinary Officers of the Board of Agriculture respecting the origin of an outbreak of bovine pleuro-pneumonia at Lord Leicester's. Every detail in connection with this case was brought before the members of the Eastern Counties V.M.A., and a resolution was unanimously passed that the theory advanced by the Veterinary Officers of the Board was unsupported by the facts and history of the outbreak. But this did not go far enough for John Hammond. A further report was published in the local press and in almost every Agricultural paper in England.

the local press and in almost every Agricultural paper in England.

In addition to his veterinary practice he farmed extensively, and established one of the most noted herds of Red Polls in the country; the foundation stock was a cow named "Davy," presented to him by his father about 1850, and it is no exaggeration to say that the best Red Poll herds of the present day are infused with the "Davy" or "Davy son" blood. As an exhibitor he was very successful at Smithfield, The Royal, and County Shows, and he had the honour of being presented by the then Duke of York with two oil-paintings of bullocks that had been purchased by the Duke for his herd, and had won prizes at the London Fat Stock Show.

Show.

In early life he distinguished himself as an athlete. He excelled in most of the games of the day, and had jumped 5 ft. 9 in. high. He was also a first rate shot. He had held various public offices; and for 55 years in succession was elected Churchwarden at Bale. He had most pronounced religious convictions—was a Churchman of the Evangelical type.

Of the thirteen children of his marriage, five died in infancy. His second son, John, succeeded to the practice, and his youngest daughter is married to Mr. G. H. Gibbings, of Tavistock. He was in his 89th year, and had been ailing since Christmas, but the end came with rather unexpected suddenness.

The funeral took place on April 26th, and was very largely attended. The little rural Church at Field Dalling was insufficient to accommodate the numbers who had assembled to pay a last tribute of respect to one whom they all admired and many loved.

The profession has lost an honoured member, and the name of John Hammond will still live in the memory of those who enjoyed the privilege of being called "his friends."

"He faded as a flower; but the sweet fragrance of his

"He faded as a flower; but the sweet fragrance of his life will cling to his memory as the scent of the rose lingers in its withered leaves."

TEMPORARY A.V.C. OFFICERS AND THE COUNCIL ELECTION.

To the Editor of "The Veterinary Record."

Sir,—"Temporary" apparently wishes to "draw" candidates for election to Council into a kind of competitive examination on his grievances, with the Army List as a text-book.

If he is sincere, why does he not privately approach some of the existing 29 or 30 members, or all of them, by which means he is likely to accomplish more towards getting his grievances seen to, than by obtaining the support of only one or two who may pass the examination.

" COUNCIL "

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Period.		Anth	rax	and-A Dise	Iouth	Glanders.†		Parasitic Mange. ‡			Swine Fever.			
		Out- breaks (a)	Ani- mals,	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh tered.		
GT. BRITAIN.	leek e	nded Ma	y 4	2	2					91	151	2	49	16
Corresponding week in	-	1917 1916 1915	:::	14 19 18	15 21 20			1	1	47 58 30	95 82 79	6 2 1	69 123 117	33 446 543
Total for 18 weeks	, 1918			115	130			14	36	2328	4474	224	. 372	130
Corresponding period in	{	1917 1916 1915		243 240 285	278 281 317	1	24	11 21 11	20 62 16	1247 1220 ‡223	2608 2906 ‡526	354 167 144	909 1646 1392	377 5137 6089

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, May 7, 1918

Excluding outbreaks in army horses.

IRELAND. Week end	ed May	4				1			Outbreaks 	8		
Corresponding Week in	1917 1916								1	10	5	51 13
	1915	::-				!			1	5	7	59
Total for 18 weeks, 1918			1	1					57	154	7	27
Corresponding period in	${ 1917 \atop 1916 }$		1	5			1	1	17 28	203 201	113	793 543
	11915		1 1	1	***		1	3	17	218	102	626

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 6, 1918.

Note.—The figures for the Current Year are approximate only.

*As Diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1558

MAY 18, 1918.

VOL. XXX.

THE MANGE ORDER.

To-day we print the essentials of the new Mange Order, which comes into force on Wednesday next. Its most important clauses are those which enable the movement and working of affected horses under licences—an obvious concession to present necessities, which will increase the responsibilities of veterinary inspectors. The regulations differ for horses affected with psoroptic or sarcoptic mange; so it will be necessary for the inspector to determine the species of the parasite in every case in which a licence is to be granted. This ought to present no difficulty to the inspector; but it certainly may open the door to some disputes—as the exclusion of symbiotic mange from repressive legislation has done. Further, in issuing licences to a not inconsiderable section of owners, much surveillance may be necessary to ensure that the conditions are observed. On the whole, the Order gives the impression of having been designed to make the best of an unsatisfactory position. It looks as though the Board judge a considerable prevalence of mange for some time to come to be inevitable, and have framed the new regulations to lessen the loss of horse labour the disease is now causing. Undoubtedly the Order will do that with the minimum of risk of spreading infection; and that, in view of the present economic position, fully justifies its issue. It will be less easy to work than the old Order, and it is not likely to help to check the disease; but its economic advantages are so undeniable that it ought to be well received by the profession.

PRESIDENTIAL ADDRESSES. SWINE FEVER—RESULTS

There were two interesting features at the last meeting of that young and progressive Society, the North Midland V.A. The first concerns the Presidential address. In other Societies, the practically universal custom is that the Presidential address shall not be discussed at all. In this one, the President, following the example of his predecessor, invited a discussion upon his address, and evoked a good one. Other Societies and Presidents might do well to take note of this. A hard and fast rule that all Presidential addresses should be discussed is, perhaps, inadvisable; but the equally rigid regulation to the contrary that now prevails might advantageously be left open for relaxation at will. Some Presidential addresses, not having been prepared for discussion, would not repay one; but chance of receiving. Probably the best rule would whether his address should be open for discussion, various fly larvæ, a considerable number of cases

as appears to apply at the North Midland meetings. It is certain that the discussion under notice brought out much valuable opinion and information regarding matters of considerable importance at the present time; and these are precisely the sort of questions which are most frequently mentioned in a Presidential address.

The second interesting subject was Mr. J. S. Lloyd's detailed account of his experience of Serum treatment for Swine fever. Discussion upon this is deferred to the next meeting, so there will be further opportunities of considering it; but it may be said at once that Mr. Lloyd has set a good example by publishing these notes. The Board of Agriculture reports of the treatment, valuable and highly encouraging as they are, come at long intervals. In the meantime, the frequent publication of such accounts of individual experience as this would do much to quicken interest in the treatment and to disseminate knowledge of its results. There are now many practitioners who have considerable experience of serum treatment, and it is to be hoped that some will soon follow the example set by Mr. Lloyd.

DERMATITIS AND DEMODECTIC MANGE OF BOVINES.

By J. A. GRIFFITHS, M.R.C.V.S., V.O., Nyasaland.

Dermatitis is a common disease of cattle in Tropical Africa. I have seen the disease on the Zambesi river, in Portuguese East Africa, Nyasaland, Northern Rhodesia, and German East Africa.

The condition has been described by Van Saceghem (1917), who had studied the condition in the Belgian Congo. He describes the condition as being due to Dermatophilus congolensis, a filamentous bacterium which appears in two forms: (1) straight or curved filaments, sometimes branched and containing fine granules; (2) isolated cocci.

The disease he identifies clinically by the following characters: (1) the formation of crusts over which the hairs are erect; (2) rapid spread over the animal; (3) complications which may bring about death; (4) young animals and adults affected to the same degree; (5) a seasonal affection which is only seen in the acute form during the rainy

In 1913, whilst dealing with extensive outbreaks of infection from Demodex folliculorum var. bovis in we can all remember many that have been well the cattle of the Shire highlands of Nyasaland, it worth the discussion which they never had the was noted that whilst the majority of cases in the early stages only showed the typical nodules, indisbe for each President to determine personally tinguishable externally from the nodules caused by

were suffering from an acute dermatitis which tended to spread rapidly over the whole body and very commonly ended by the animal dying from septicæmia, particularly during the rainy season. The majority of these cases also had nodules full of pus which contained the D. folliculorum. In a few cases, however, it was not possible to demonstrate the latter parasite.

Follicular mange was so widespread, practically every herd being definitely infected, that the dermatitis had been looked on as the advanced stage

of the disease.

In later investigations dermatitis was met with in cattle of districts that were free from follicular mange, and it was possible to differentiate the dermatitis as a separate disease due evidently to a specific organism, a micrococcus. In such cases the disease appears at first as an eczematous in-flammation of the skin, in the region of the hump most commonly, either on its summit or around the base. The affected portion of the skin is at first hot and sensitive, of a light red colour, a yellow serous exudate is thrown out which dries in crusts holding the hairs erect. The inflammatory process extends along the skin over the spine and down excends along the skin over the spine and down over the scapulæ, gradually spreading with varying rapidity, depending on the season and the condition of the animal, until the skin covering the whole of the trunk is affected. The skin loses all elasticity, and the animal becomes "hide-bound."

There is a good deal of variation in the degree of e lesions. Where complicated with the D. folliculorum the skin becomes similar to an extremely neglected case of sarcoptic mange in the horse; the skin is thick, toughened, and more like "rhino' hide than anything else. In most cases, where there is no complicating disease, one finds the infected herd hide-bound, with dull, staring coats, the skin tough, thick, and difficult to pick up. There is usually an area around the hump and extending along the back where the acute inflammation persists, leaving the part with only scanty short hairs which stand erect, whilst here and there are thick scabs, adherent to the skin. Around and between the scabs the new skin gives the part the appearance of having been scalded.

In some districts in German East Africa and North Nyasa the condition is widespread. In one small area, of 4500 animals that passed through an inoculation crush it was noted that 8 per cent. of the animals had lesions. On individual herds being examined it was found that as a rule the herd was either entirely free, or practically every animal had the disease in some stage, unless it had only recently been introduced to the berd; so that in an infected herd one would find 80 to 100 per cent. of

the animals with lesions.

The disease appears to be more prevalent among the cattle of the Wankoude, whose custom is to keep their cattle in the huts they themselves live in. These huts are divided down the centre by the

pigmented and partially pigmented skins exclusively: no all black or all red animal has been noted to be affected. This, however, may be only a co-incidence, as all blacks and all reds are not very common among the native stock.

In diagnosing dermatitis it is hardly possible to mistake the lesions for those of follicular mange, as with the latter one always gets nodules in the skin, and although these may only be the size of millet seeds, microscopic examination of their contents will soon decide if the condition is due to D. folli-

culorum

In dealing with these two diseases, dipping or spraying with arsenical dips take first place as a practical measure for dealing with large numbers of animals. Once the practice of dipping becomes general in a district, dermatitis tends to disappear. Only animals with the gross lesions associated with the chronic form cannot completely recover, but these improve greatly in condition. The effect of dipping in demodectic mange is to prevent spreading either on the animal or in the herd. To obtain the full benefit of dipping, the process has to be regularly adhered to, as animals that have had der-matitis or still have demodectic mange nodules readily relapse if the treatment is discontinued for any considerable period.

As a practical measure in the Shire Highlands of Nyasaland it was found expedient to slaughter advanced cases of either dermatitis or follicular mange to clear the country of the most potent sources of infection. At the same time the early slaughter, for meat, of animals in any way affected with D. folliculorum, providing they had not lost condition,

was encouraged.

In all cases of dermatitis in which I have made a microscopic examination the organism has been most commonly found in the form of isolated cocci. It has been noted that where dermatitis is affecting a herd in which there are cases of infection by D. folliculorum the latter tends to spread more rapidly from one animal to another. In uncomplicated cases it is probably exceptional for the nodules in the skin to be broken, but when dermatitis is present the nodules break open, and their contents, being more fluid, tend to run over the skin, further aggravating the dermatitis as well as spreading infection.

In uncomplicated cases of follicular mange the nodules are firm swellings which cannot usually be nodules are this swennings which cannot usually be evacuated by squeezing, and the hair over the nodule is not affected. To obtain a smear of the contents a scalpel is used to cut down on the nodule, which is in the depths of the skin. The contents is a creamy-white cheesy material which, examined, is found to be a mass of the parasites. Such uncomplicated cases may show very little alteration either in the size or number of the nodules over periods of at least two years.

In the more acute form the nodules are small-

from the size of a millet seed to that of a pea—and m. These nuts are divided down the content by site in the state of a limited seed to the of and by shorter posts of a large area is affected, not uncommonly the side of the neck and the region over the scapula on one or tied side by side to the posts running down the middle. It appears to affect animals with non-or exuding their contents, causing matting of the are usually easily broken up by pressure of the fingers, and their contents expelled.

In Nyasaland Cooper's improved cattle dip was effect of preventing an increase in the number of nodules, but does not have any effect on those already in existence, which is hardly to be expected nodules are situated.

Follicular mange in the ox, when complicated with dermatitis, presents the clinical characteristics of the disease in the dog as met with in Great Britain. It would appear probable that in the dog in Great Britain, as in the ox in the tropics, the organism causing the dermatitis in a case of follicular mange is not the D. folliculorum, but the staphylococcus usually associated with the latter examination, and a careful search was made for the parasite, and that there are really two conditions to ill-effects which might reasonably be expected to be dealt with in considering treatment.

While in the dog it is no doubt profitable to treat the disease with vaccine prepared from cultures of complex dressings; in the ox in such countries, as Africa, where diseases are usually dealt with on a large scale when in the form of epidemics, and prevention is considered of more importance than cure, one finds all practical requirements are satisfied by regular dipping-the preventer of so many

Undali, G.E.A., Feb. 14.

OVARIOTOMY IN A MULE. TORSION OF THE OVARY.

By Ainsworth Wilson, Major A.V.C., o.T.C.

The subject was a very vicious light-draught mule, which it was found impossible to groom and work, and even dangerous to feed. Fortunately a set of stocks were nearly completed when the animal arrived at the depot, permitting a rectal and vaginal examination to be made without casting. Palpation of the right ovary revealed several small cysts in the adjacent broad ligament, the largest about the size of a broad bean, the gland itself being normal. No cysts could be detected on the left side, but the ovary, smaller than a pullet's egg, was hard and atrophied. The remainder of the genital tract was normal, and although no symptoms of nymphomania had been observed, it was decided, after due preparation of the animal to perform ovariotomy, taking care to include a sufficient portion of the broad ligament in the chain.

With a Hobday's écraseur, and using the sharp edge of the chain, ablation of the right gland was performed without any difficulty. The left ovary, however, proved to have a very tough pedicle, causing the teeth of the instrument, both key and shaft, to be stripped after the first few turns. Keeping the chain tight round the pedicle, and using the écraseur as torsion forceps, I then endeavoured to twist off the ovary by drawing it close to the vaginal incision, whilst firmly grasping with the hand in the abdomen the extremity of the uterine horn and

hair covering the nodule. The unbroken nodules the ovarian ligament. As a substitute for the retaining clams the fingers proved very ineffectual, and there is no doubt that the uterus was rotated as well as the ovary. It required twenty minutes used, and dipping at weekly intervals has had the hard work to complete the removal of the left gland, its peritoneal covering being stripped off during the process. The mule made a speedy and uneventful recovery, exhibiting merely a little stiffwhen one considers the depth in the skin that the ness in the near hind limb, which disappeared entirely before the tenth day.

Some time after the discharge from the sick lines on the 18th day, further unsuccessful attempts were made to handle and work the animal, which remained as vicious as ever. Accordingly she was proposed for casting, and eventually destroyed for vice three months after the operation. A good opportunity thus arose for making a post-mortem result from the rough treatment to which the left cornu and ovary had been subjected. Yet all the parts were normal, and only the cicatrised wound the organism causing the dermatitis, and by various in the anterior vaginal wall, and the absence of the ovaries, pointed to the operation.

This is the first time I have been compelled to resort to torsion in solipeds. It would be interesting and instructive to know the experiences of other operators, especially in the mare. What percentage of mares would die from peritonitis? Torsion of the ovary in the cow is, of course, quite a simple procedure, although most practitioners, in-

cluding myself, prefer the écraseur.

Royal College of Veterinary Surgeons.

FELLOWSHIP DEGREE.

An Examination for the Fellowship Degree was held at the College, 10 Red Lion Square, London, W.C., on Saturday, May 11th. Three candidates entered, but two were prevented from attending owing to inability to get leave of absence. The following candidate was successful. cessful :—

C. S. Hunting, Jun.
Thesis: "Mammitis in the Cow.

The Examiners were: Prof. J. Macqueen, Mr. J. Malcolm, Mr. W. Woods; Mr. W. J. Mulvey, Chairman. FRED BULLOCK, Secretary.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:—

Henry All	en, Major A.v.c.	£1	1	0	
J. A. Edw	ards, Capt. A.v.c.	1	1	0	
T. Millar,	Asquith, Sask., Canada	2	1	5	
H. E. Rich	nardson, Hedon, nr. Hull	1	1	0	
	l, Woking	1	1	0	
P	reviously acknowledged	731	3	0	
		£737	8	5	

ORDER OF THE BOARD OF AGRICULTURE AND FISHERIES (9923), Dared 7th May, 1918.

Parasitic Mange (Amendment) Order of 1918.

The following are the essentials of the Amendment Order:

Modification of the Parasitic Mange Order of 1911.

Amendment of Article 5. For Article 5 of the principal Order the following Article shall be substituted:—

"Detention and Treatment of Animals.

"5.—(1) A Veterinary Inspector of the Local Authority shall serve a Notice (in the Form A set forth in the Schedule to this Order, or to the like effect) on the occupier of any stable, shed, field, or other premises in which there is a horse, ass, or mule which, in his opinion, is affected with parasitic mange, and thereupon the following restrictions shall take effect:—

"(i) Each horse, ass, or mule on the premises at the date of the service of the Notice which is affected with parasitic mange shall from time to time, as often as may be necessary, be treated by the owner thereof with some dressing or other remedy for such disease approved for the purpose / by a Veterinary Inspector of the Local Authority, or by a Veterinary Surgeon or Veterinary Practitioner employed by the owner of the animal to examine it.

Practitioner employed by the owner of the animal to examine it.

"(ii) Any horse, ass, or mule on the premises at the date of the service of the Notice which is affected with parasitic mange shall not be moved out of the stable, shed, field, or other premises specified in the Notice except with a licence of a Veterinary Inspector of the Local Authority or of an Inspector of the purpose of slaughter thereon, or to a place of detention to be treated in accordance with the provisions of the Order;

(c) if the animal is certified by a Veterinary Inspector to be affected only with psoroptic mange, it may also be moved from and to the premises specified in the Notice (Form A) for the purpose of being worked;

(d) if the animal is not so certified, it may be moved between the premises specified in the Notice (Form A) and premises in the occupation of the owner of the animal for the purpose of being worked thereon;

(e) Before the movement the animal shall be treated with some dressing or other remedy for parasitic mange approved for that purpose—(as in para. i);

(f) where the animal is certified to be affected only with psoroptic mange the movement may take place at any time within seven days after being so treated, but if the animal is not so certified the treatment shall be applied immediately before the movement;

(g) in the cases referred to in paragraphs (c) and (d) the movement must not cause an absence from the premises specified in the Notice for a period exceeding twenty-four hours, and the animal must not be moved into any stable, shed, field, or other premises in which

"(iii) Any other horse, ass, or mule on the premises at the date of the service of the Notice shall only be moved out of the stable, shed, field, or other premises if within the preceding seven days its skin has been treated all over with some dressing or other remedy for parasitic mange approved for that purpose—(as in para. i): Provided that this paragraph shall not apply to any horse, ass, or mule in a market, fairground or saleyard.

"(iv) No horse, ass, or mule shall be allowed by the owner or person in charge thereof to stray out of the stable, shed or field, or other premises specified in the Notice or from the land on which it is being worked.

"(2) A Notice under this Order shall remain in force until it is withdrawn by a Notice in writing served on the occupier of the premises by an Inspector of the Local Authority.

"(3) An Inspector shall with all practicable speed send a copy of any Notice served under this Article to the Local Authority and to the police officer in charge of the nearest police station in the District."

Amendment of Article 6.

Amenament of Article 6.

For paragraphs (1) and (3) of Article 6 (Cleansing and Disinfection) of the principal Order, the following paragraphs shall be substituted:—

"(1) Any place in which a horse, ass, or mule affected with, or suspected of, parasitic mange has been at any time shall, if and when so required by an Inspector of the Local Authority, be cleansed and disinfected by, and at the expense of, the occupier of such place, as follows:—

(a) The place shall be swept out, and the sweepings shall forthwith be burned or be well mixed with quick-lime and be effectually removed from contact with horses, asses, or mules; and
(b) The floor of the place and all other parts thereof with which such horse, ass, or mule has come in contact shall, as far as practicable, be disinfected in accordance with the subsequent provisions of this Article; then
(c) The same parts of the place shall be thoroughly washed, scrubbed, or scoured with water.
(d) In the case of a field or other place which is not capable of being so cleansed and disinfected, it shall be sufficient if such field or place be cleansed and disinfected as far as practicable and to the satisfaction of an Inspector of the Local Authority."

"(3) Every place or thing, or part thereof, required by

"(3) Every place or thing, or part thereof, required by this Article to be disinfected shall either be thoroughly coated or washed with:—

(a) a four per cent. (minimum) solution of carbolic acid, containing not less than ninety-five per cent. of actual carbolic acid; or (b) a disinfectant for mange equal in disinfective efficiency to the above-mentioned solution of carbolic cold.

or shall be effectively exposed to an atmosphere of gas poisonous to the parasites of parasitic mange."

Amendment of Article 7.

For sub-paragraphs (ii), (iv), and (v) of Article 7 (1) (Prohibition to expose or move Animals affected with Parasitic Mange) of the principal Order, the following paragraphs shall be substituted:—

"(ii) to place a horse, ass, or mule affected with parasitic mange in a lair or other place adjacent to or connected with a market, fair-ground, or sale-yard, or where such animals are commonly placed before exposure for sale, or, except under a licence granted under Article 5 of this Order, in any stable or shed other than that in which the animal was kept at the time it was found affected:

that in which the animal was kept at the time it was found affected;

(iv) except under a licence granted under Article 5 of this Order, to carry, lead or drive, or cause to be carried, led, or driven on a highway or thoroughfare, a horse, ass, or mule affected with parasitic mange;

(v) to place or keep a horse, ass, or mule affected with parasitic mange on common or uninclosed land, or in a field or place insufficiently fenced, or in a field adaptioning a highway, unless the animal is in charge of an attendant or the field is so fenced or situate that any

horse, ass, or mule therein cannot in any manner come in contact with any horse, ass, or mule passing along that highway, or grazing on the sides thereof;"

Form of Notice.

The Form A set forth in the Schedule hereto shall be substituted for the Form A set forth in the Schedule to the principal Order.

Existing Notices.

(1) A Notice under Article 5 of the principal Order, as amended by this Order, shall, as soon as practicable, be served on the occupier of any premises in respect of which a Notice (Form A) under the principal Order is in force at the date of the commencement of this Order, and on such service the existing Notice shall cease to be in force.

(2) Subject to the provisions of this Article, Notices under Article 5 of the principal Order in force at the commencement of this Order shall not be affected by this Order and shall continue in force as if this Order had not been made.

Offences.

If a horse, ass, or mule is moved in contravention of this Order, or of the conditions imposed by this Order or any Notice or licence thereunder, the owner of the animal and the person for the time being in charge thereof, and the person causing, directing, or permitting the movement, and the consignee or other person receiving or keeping it, knowing it to have been moved in contravention as aforesaid, and the occupier of the place from which the animal is moved, shall, each according to and in respect of his own acts and defaults, be deemed guilty of an offence against the Diseases of Animals Act, 1894.

Commencement.

This Order shall come into operation on the twentysecond day of May, nineteen hundred and eighteen.

ELECTION ADDRESS.

To the Fellows and Members of the Royal College of Veterinary Surgeons.

Gentlemen,—I solicit your vote at the forth-coming election. The war, which unfortunately has every appearance of being still a prolonged one, renders it useless to discuss many matters ripe for settlement. Finances, however, must continue to receive the anxious consideration of the Council. Some way, I hope, may be found to increase our resources, to revive the now dormant activities of the Council, and to be ready for the many—I think, serious—matters that will arise after the conclusion of peace. To wait till that time arrives will, I am confident, be most unwise.

Efficient representation in Parliament is imperative. Now that the Agricultural interests are to be directly represented this should not be difficult of attainment. With such representation, grievances in general, and those of our profession now temporarily engaged in the army would be more quickly recognised and redressed. Army promotion should follow ability: seniority shelved: equality should govern pay. I should support the Council in all measures to remove these grievances and, if necessary, initiate and constantly prosecute them until obtained.

The working of the Military Service Acts requires more personal attention from the Council. The needs of the army must not entirely obscure other vital demands of the State. The grading and posting of men requires a watchful eye. Our students should be on an equal footing with the medical, and the efforts of the Council in this direction persited in.

Greater publicity should be given to our proceedings. By enlisting the sympathy and support of the public our demands are the more likely to be acceded, the importance of the profession to the State recognised, and to more surely advance.

Yours faithfully,

JOHN B. TUTT, F.R.C.V.S.

Winchester, May 9, 1918.

Diseases of Animals and Research.

The following sentences are taken from a long letter by Mr. S. H. Gaiger, Professor of Bacteriology, Glasgow V. Coll., which appeared in *The Scottish Farmer* last week. We reprint because it emphasises a view which has been repeatedly urged in these columns—that it is necessary that the public should be better informed on the value of veterinary medicine to the State. *The Journal of the R.A.S.E.*, and *The Journal of the B. of A.* get a truer perspective of the question: but the minor Agricultural Journals—when not be-littling the efforts, and magnifying the deficiencies of professional work, are chiefly concerned in collecting and disseminating information and prescriptions for home doctoring.

Some of our members are in touch with their local members of Parliament, and may thus be in a position to help to create a just appreciation of the value of an effective veterinary service to the State.

"At the present time over 40 per cent. of veterinary practitioners are serving with the Army Veterinary Corps, and those remaining in civil life have almost more work than they can cope with. All the older students join the Army Veterinary Corps as soon as they qualify, and no new students can remain at the colleges after they come under the Military Service Act. This means that the colleges are being rapidly denuded of the few remaining students, and that no addition is being made to the rapidly diminishing number of veterinarians in this country." . . . "It is bad enough to have swine fever always with us, and periodic visits from foot-and-mouth disease, to mention only two of our plagues, but if rinderpest reaches these islands in addition, the existing machinery for dealing with them would probably break down, and so would our food supplies." . . "Exactly how difficult it is to get rid of contagious diseases, once they gain entrance to countries, even to island countries, if conditions are suitable for their propagation, is shewn in the case of Mauritius, which received surra from India and in consequence lost nearly all the cattle on the island. A similar thing occurred in the Philippines, and both there and in Mauritius, surra exists at the present time. With such a world-wide movement of animals as is taking place at present, the spread of animal diseases is very greatly facilitated, but it is when the war ends that we must look for the greatest danger." . . "Glanders, epizootic lymphangitis, and ulcerous lymphangitis are notorious examples. About the year 1910-11, dourine was considered to have almost died out in the Punjab, but now it has assumed serious proportions again, and as it occurs in France and North America also, it is by

useases require is that the watchful veterinarians of these islands be sufficiently depleted in numbers, and there will be a clean break through of our defences. Once through these veterinary defences, diseases would over-run the country, because we have no veterinary reserves, for with the present policy the practising veterinary surgeon will soon be found in only insignificant numbers. numbers.

numbers."
Here are some of the contagious diseases of animals in Britain at the present time:—Tuberculosis, glanders, epizootic abortion, black quarter, anthrax, Johne's disease, swinc fever, swine erysipelas, equine pleuro-pneumonia, piroplasmosis, braxy, scrapic, louping-ill, joint-ill, contagious sterility, contagious mammitis, fowl cholera, contagious epithelioma, and in addition a number of parasitic diseases. Out of this list, at least four are directly communicable to human beings.

For years past the most useful work has been accom-

For years past the most useful work has been accomplished in the U.S.A. by the Bureau of Animal Industry. plished in the U.S.A. by the Bureau of Animal Industry, and it was in that country that the true nature of swine fever was first discovered, and a most effective serum has now been produced. What do we find is the position here? After years of waiting, one suitable laboratory has been put up in England last year. It is only quite recently that Government has provided the money for a swine fever laboratory for Ireland where the disease causes great ravages. Compared to other countries, Britain does next to nothing for veterinary science.

The starved condition of the veterinary colleges in Britain is a disgrace. Compare their condition with those in other parts of the world. Even Belgium has a fine State school of veterinary medicine in Brussels. In our own Empire, take the example of the Punjab Veter-

As to the last mentioned investidisease problems.

gation it is as yet too soon to predict.

"... Large sums of money are left for the study of "... Large sums of money are left for the study of human diseases such as cancer and tuberculosis, but one looks round in vain for sums left to veterinary colleges for the study of animal diseases, and the alleviation of animal suffering. What has been done in this way comes from the veterinary profession itself as in the case of the Royal (Dick) Veterinary College to which the Dick family and Mr. MacCullum, M.R.C.V.S., gave money. It seems strange that no philanthropically minded person ever thinks of bettering the condition of animals by giving sums to improve the veterinary colleges where veterinary medicine and surgery and science are taught.

A note of warning is necessary to those who may be A note of warning is necessary to those who may be expecting too much. Sheep diseases, like most other diseases, can only be dealt with after years of patient investigation. From the little that has been done on them already we know that sheep diseases present perhaps the most difficult of all problems in veterinary research, and that epoch-making discoveries leading to

them already we know that sheep diseases present perhaps the most difficult of all problems in veterinary research, and that epoch-making discoveries leading to framatic results are not to be expected. Every step in the advance of such knowledge must rest on the surest foundation. Getting rid of a disease is generally only accomplished by piecing together the work of several investigators, often in different parts of the world. An instance of this is seen in glanders which is slowly being got rid of in this country by the veterinary profession, but this is largely due to the discovery of mallein nearly twenty years ago by two Russian veterinary surgeons.

There is an increasing number of good appointments to be had at home by those engaged in private practice, and whole-time appointments for those who are not. Appointments abroad rank high comparatively to those of other professions. One can start at the age of 22 in the Indian Civil Veterinary Department with a salary of £400 per annum. There is also the Army Veterinary Corps for those so inclined, and there are other appointments obtainable in almost any part of the British Empire, and a number out of it. The writer when in South America last year was asked to find a suitable man for the veterinary work of one of the capitals. In addition to a fixed salary, he was to have the right to private practice, and I feel certain that £1500 could be made altogether, per annum. Civen sound health and there so obtain experienced veterinary investigators on terms out of all proportion to what they can obtain in so there countries, so long will the best men go abroad and so long will Scotland experience the full force of its animal disease problems—and deserve it.

I have here only dealt with the aspect with regard to diseases which are contagious, but from the point of view of non-contagious every-day ailments of animals the dearth of veterinarians is equally serious. Large numbers of animals have simply to suffer untreated. Efforts are being made by the Royal College of

ARMY VETERINARY SERVICE

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, May 13.

REGULAR FORCES. ARMY VETERINARY CORPS. Temp. Hon. Lient. to be temp. Hon. Capt.:—E. J. McLachlan (Apl. 11).

Temp. Qrmr. and Hon. Lieut. to be Hon. Capt.:—W.H. Weller (Apl. 8).

May 14.

Temp. Lts. to be temp. Capts.: -W. A. Austin (Apl. 30); T. J. Bosworth (May 1).

Temp. Hon. Lt. to be temp. Hon. Capt. :- E. S. Steiner (Apl. 11).

To be temp. Lt.: -D. R. Chalmers (Apl. 25).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Brev. Maj. G. W. Godwin to be temp. Maj. whilst holding appt. of Dep. Asst. Dir. of Vety. Servs. (Mar. 16).

AYRSHIRE VETERINARY ASSOCIATION.

A meeting of this Association was held in the Ayrshire and Galloway Hotel, Ayr, on Thursday, May 9. Mr. D. C. Smith, M.R.C.V.S., New Cumnock, President, in the chair. There was a full attendance of the practising veterinary surgeons in the county, and Mr. Young, M.R.C.V.s. of the Board of Agriculture, was also present.

It was unanimously agreed that the scale of fees for professional services, medicines, and operations would

be increased as from 1917.

The following office-bearers were appointed for the

ensuing year :-

President: Mr. D. C. Smith, New Cumnock. Vice-President: Mr. Hubert Gillmor, Ayr. Secretary and Treasurer: Mr. W. G. Forbes, Kilmarnock

Fifty years of service.

Mr. Robert Morris, M.R.C.V.S., Reiss Lodge, Wick, has passed the Jubilee of his appointment as County Inspector for Caithness under the Diseases of Animals Acts. Doubtless, but for the circumstances of the war. recognition would have been made of the event in a more prominent manner. At a meeting of the County Council held in May, 1916, the following resolution was minuted:-

"The meeting, on the motion of the Convener, resolved to tender their heartiest congratulations to Mr. Robert Morris, the County Inspector under the Diseases of Animals Act, on attaining the fiftieth anniversary of his appointment to the office. He was appointed at a critical time to combat a pestilential outbreak of rinder-pest which threatened to devastate the county and cause serious loss to farmers, and by his unflagging energy and skill his efforts were successful in preventing the disease from being introduced into this county. The members desire to minute their high appreciation of the valuable services which Mr. Morris rendered at that time, and which he has continued to render not only to the Council and thir predecessors in office, but also to the community: and of the courteous, tactful and painstaking manner in which these services and the duties attaching to his appointment have been carried out-duties and responsibilities which have considerably increased by legislation since he took up office. Council express the hope that he may enjoy health to enable him for many years to come to continue the per formance of these duties.'

The minute is signed by Mr. D. P. Henderson, of Stemster, the Convener, and Mr. James Young, County Clerk. Though the intimation of this mark of appreciation is rather belated, the public will very heartily join in the congratulations and good wishes to Mr. Morris, whose association with the agricultural and public life of the community has been so long and honourable, and County" is now the owhich—we are glad to say—still actively continues. Stock Insurance Office.

The extract minute of Mr. Morris's original appointment to the office, which was made at a meeting of the Justices of the Peace for the County on 18th May, 1865, is signed by the late Major James Horne, of Stirkoke, and certified by Mr. William Miller, Clerk of the Peace. -John o' Groat's Journal.

TEMPORARY A.V.C. OFFICERS AND THE COUNCIL ELECTION.

To the Editor of "The Veterinary Record."

Sir,-I quite agree with the views of "Temporary" on the above subject in last week's Veterinary Record. I would, however, state that it would be far better for those of us on military duty to secure the election of a member of the profession, not in the A.V..C., who would give an undertaking to ventilate the present grievances and assist the Council to adopt a firm attitude.

Several things require explanations. One would ask: What is the sense of having veterinary officers who are at present in a low category (and who really ought not to be in the service at all but for the conditions existing to-day), constantly examined and, if possible, placed in a higher category through indirect influence, and sent abroad?

Several instances have occurred where unfit Veterinary Officers have been put fit for service abroad and on arrival there have been unable to stand the conditions, and in some instances have had to leave the service whereas if they had been left alone at home they could have carried on and been of use.

Why is it that Garrison Duty is counted as equivalent to General Service, and an officer so categorised is sent

wherever a vacancy occurs?
Why is it that if an officer has been placed in a low category he can be re-examined every month or less if the A.V.D. desires it, whereas if placed in a high category, and he desires re-examination it is denied him for six months?

There is plenty of scope and material ready for the

member who will undertake it.

In conclusion, why does not the same system as in the R.A.M.C. prevail in the A.V.C.—getting all practitioners up to a certain age to serve one year, and then return and carry on, their places being taken by those in the district who have either served or who will next be called up? Those of us who have served over two years could well be relieved in this way and allowed to be demobilised for twelve months, to see into affairs: our places being taken by those who have not served and who have secured their exemption due to our absence and the consequent scarcity of veterinary surgeons.—Yours faithfully,

M.R.C.V.S.

AN OFFER OF ASSISTANCE.

The following circular was sent to us by a correspondent for publication. It has been crowded out for several weeks by heavier matter. It is signed by the Managing Director.

> County Insurance Buildings, February, 1918.

Private and confidential. Dear Sir.

Veterinary Practices wanted?

During the past twenty-one years we have been favoured with the support of leading Veterinarians-"The County" is now the oldest independent purely Live

When the War is over there will be a considerable demand for Practices—we have several enquiries on hand. We shall be pleased to have particulars in confidence of Practices for sale.

We are prepared when required to furnish those Veterinary Surgeons who acquire Practices through us with the Capital necessary for the purchase of Gotdwill, Furnishings, Motors and Expenses which have to be incurred before a Return can be expected, on payment of Investigation Expenses and not more than Bank Interest on any sum lent, provided we obtain such Insurance business as the Veterinary Surgeon can influence, upon which business, of course, the full commission and examination fees would be allowed.

We are willing to enter into a similar arrangement with Veterinary Surgeons who wish to extend their practices by employing Assistants.

All enquiries are treated as private and confidential.

OBITUARY.

Dr. A. D. MELVIN.

The death is announced of Dr. A. D. Melvin, Chief of the Bureau of Animal Industry at Washington since 1915, and a well-known authority upon Veterinary State Medicine. He was a Foreign Associate of the R.C.V.S., having been elected as such in July, 1914. Dr. S. R. Mohler has been appointed to the vacant post.

Prof. A. DEGIVE.

Prof. A. Degive, formerly Professor and Director of the Brussels Veterinary School, has died at Brussels at the age of 74 years. His speciality was surgery; and in his day he held one of the highest reputations in Europe as an operator. Many English members will remember him as the solitary Belgian representative present at the London International Veterinary Congress in 1914, when he spoke at the opening meeting, delivering his speech in French. He had been a Foreign Associate of the R.C.V.S. since 1880.

Mr. ALEXANDER DEWAR, a member of the Land Court, died in Edinburgh on Wednesday, 10th April, in his 60th year. Of all the members of the Land Court, Mr. Dewar impressed one as the ablest and most shrewd—as the man who best and most sympathetically approached the duties of the Land Court from the viewpoint of the small holder. Himself the son of an Aberdeenshire small farmer, Mr. Dewar understood the merits of that class, and keenly appreciated their difficulties. He was a man of well-balanced judgment, and knew well when to speak and when to be silent. He never lost touch with practical agriculture, being tenant of the farm of Balfour, Fettercairn, up to the end. He was a younger brother of Prof. J. R. U. Dewar, FR.C.V.S., lete of the Royal (Dick) Veterinary College.—The Scottish Farmer.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

			Anthrax		and-	Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡		Swine Fever.	
Period.			Out- breaks		Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.
	ended May	11	5	5			1	2	79	154	3		
	1917		-	-		_				104	- 3	47	10
Corresponding week in	1917 1916 1915		9 11 15	9 13 17			1	1	50 36 30	90 66 75	4 2 4	78 138 98	43 495 466
Total for 19 weeks, 19		•	120	135			15	38	2407	4628	227	419	140
Corresponding period in	1917 1916 1915		252 251 300	287 294 384	1	24	11 21 12	20 62 17	1297 1256 ‡253	2688 2972 ‡601	358 169 148	987 1784 1490	420 5632 6555

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—Eseex 1; York, W. Riding! Excluding outbreaks in army horses.

IRELAND. Week	ended May	11				 		Outbreaks 4	4		
Corresponding Week i	in { 1917 1916 1915	 	 1 	"i		 	:::	1 1 	3 6 8	4 3 6	24 51 33
Total for 19 weeks, 19	18	•••	_1	1		 	.,.	61	158	7	27
Corresponding period	in $\begin{cases} 1917 \\ 1916 \\ 1915 \end{cases}$		2 2 1	6 1	:::	 1 1	1 3	18 29 17	206 207 226	117 110 108	817 595

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 13, 1918.

Note.—The figures for the Current Year are approximate only.

*As Diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1559

MAY 25, 1918.

Vol. XXX.

"GRASS DISEASE."

Mr. McLaren's article upon this subject which appears to-day is very interesting, and may prove to be equally important. It concerns a disease which is quite new, little understood, and, so far as its incidence extends, extremely serious. It outlines a somewhat vague but very probable theory of its causation, and founds upon this a simple and rational method of prevention. If the theory is correct, the soundness of the preventive system is On the other hand, it is quite possible that the theory may not be quite correct, and yet be sufficiently near the truth to render the pre-

ventive practice successful.

Mr. McLaren's view is that the disease is caused by a toxin developed in grass at a certain stage of maturity. It hardly seems to necessarily follow that the toxin must be inherent in the grass itselfthe possibility of a minute fungus, not giving marked evidence of its presence and only developing when the grass has reached a certain maturity, does not appear to be excluded. These questions require the aid of chemists and botanists for their solution; veterinarians, being concerned mainly with the prevention of the disease, may succeed in attaining it by clinical observation alone. The immediately essential thing for us to do is to test the value of Mr. McLaren's broad clinical observation—that the disease only appears upon land where the grass has reached a certain maturity—by the simple method he suggests. His own results, as he himself fully recognises, are far too few to conclusively prove his case. They do, however, as he claims, afford strong prima facie evidence in support of his views. That being so, it is to be hoped that extensive trial may be made of his method during the coming season, and the results made known.

It should not be forgotten that many diseases have been successfully brought under control without their causation being accurately understood. In fact, we have succeeded better against some diseases the exact causation of which is still unknown than we have against others the pathology of which we understand much more clearly. Facts may be observed clinically—perhaps only a very few facts—which may indicate an efficient method of dealing with the disease, though its etiology still remains more or less obscure. It is quite possibleon the present evidence it even appears probablethat this may prove to be the case as regards "grass disease." Mr. McLaren's method would be well worth testing at any time, and is doubly so at present, in view of the increased value of horses.

METRITIS IN THE COW.

By W. R. Davis, M.R.C.v.s., Enfield.

Acute metritis in cows is nearly always associated with parturition and at times may be very difficult to diagnose; indeed cases occur where the patient shows hardly any symptoms except a falling off in milk and a diminished appetite for a day or two and then suddenly becomes alarmingly ill. Those cases in which there are pronounced local lesionsswelling and discoloration of the labiæ, and perhaps inflammation and necrotic areas in the vagina -accompanied by straining and discharge are, of

course, easily recognised.

I was recently called to a cow that had slipped a calf four days previously. The owner assured me that the cow seemed to have very little wrong with her until the day on which I was asked to attend. I saw the patient at eight o'clock in the evening, and she was then in a very serious condition. The respirations were greatly accelerated, the pulse could not be taken, the heart was beating rapidly and feebly, temperature 98. The skin was very cold and so was the mouth. The cow got up when urged and she then staggered about the box and soon went down again. It was not known whether the afterbirth had been expelled; a portion of it had been hanging down and had then disappeared, and as the cow had been out to grass it was possible that she had parted with it. There was neither discharge nor straining, and no ascertainable local changes. The cow was evidently dying so that I did not seek to palpate the uterus, but contented myself with frictions to the back, warm clothing and stimulants. The cow died three hours after I had left.

The uterus had not undergone Post-mortem. involution, it was greatly dilated. Its walls infiltrated and necrotic in places. The afterbirth had been retained, and was bathed in a reddish fætid fluid. Apart from some congestion of the lungs and ecchymoses in the heart-wall the organs showed

no naked-eye changes.

The cow evidently died from septic metritis, and although I certainly suspected the presence of this condition it was only by the post-mortem that I was able to assure myself of the real nature of the malady. In cases of illness after parturition in cows where the cause is obscure an examination of the uterus either by the vagina or by the rectum is necessary if mistakes are to be avoided.

PHOTOGRAPH OF HORSE CAST IN STALL,

Maj. Ainsworth Wilson, A.V.C., O.T.C.

The subject was a heavydraught gelding, aged six, which had arrived at an Air Station from Remounts four days prewith his neck broken, in the position indicated in theillustration. Aquantity of blood stained froth depended from each nostril, and the lower portion of the face was somewhat swollen. Death, although not instantaneous, must have occurred very shortly after the accident. The excellent photograph, which I was able to secure. is my excuse for recording the case.

[We regret that present difficulties, mainly material, have prevented giving a better reproduction of a very good photograph.]



EXTENSIVE COMPOUND FRACTURE OF THE SKULL IN A PONY.

By J. R. RIDER and Major AINSWORTH WILSON, A.V.C., O.T.C., Royal (Dick) Vety. Coll., Edinburgh.

The following case came under the observation of one of us (Rider) during the Easter vacation. The animal, a pit pony about ten years old, met with an accident at work during the night 7th-8th April.

The pollowing case came under the observation. The animal, a pit pony about ten years old, met with an force made to raise the fragments.

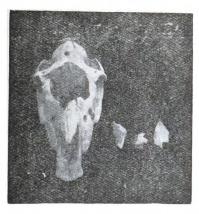
The patient was brought out of the pit on the He was coming down a steep gradient in the pit with an average load when, notwithstanding the insertion of drags in the wheels, he was forced down the hill, and finally collided with some pro-

Closer examination revealed an incised wound situated about one inch medial to the inner canthus of the left eye. Extending right across the face be-tween the orbits was a depression in which it was possible to lay one's hand. It was suspected that the frontal and nasal bones had been forced inwards

morning of the 9th April, cast and chloroformed. a large flap of skin was reflected upward over the area revealing a quantity of coagulated blood, which down the hill, and finally collided with some projecting object at the bottom.

Seen a few hours later the pony was standing feeding in his stall. The first thing noticed was the somewhat stertorous character of the respirations. elevate the depressed fragments, treatment consisted in cleansing the sinus and suturing the wound, taking care to leave the lower portion open for drainage. The left maxillary sinus was also trephined, and both sinuses were flushed daily with a weak solution of creolin. Drainage, however, was not as effectual as could have been desired. A few days later the animal became blind in both eyes, probably from injury to, or pressure on, the optic nerves; and as no improvement had taken place, he was destroyed on the 16th April.

Remarks. A marked feature of the case was the almost entire absence of hæmorrhage from the nostrils, although the nasal and turbinated bones were seriously involved. The nasal stertor, never very severe, decreased after the first 24 hours, and was scarcely noticeable until shortly before death, when it increased notably in severity. Lastly, some days after the accident, a slight purulent fœtid discharge issued from both nostrils.



The photograph of the skull indicates the extensive nature of the injury. The depressed fracture affects the whole of the upper part of the face without interfering with the cranial cavity. There are ditions there is the same momentary movement of the also fractures of the lachrymal and frontal bones situate at the inner margin and lower wall of the right orbit; yet no displacement of the eyeball or inflammation of the eye was noticed during life. tion. During the process of boiling the large fragments adherent, and can be seen driven inwards at an angle of 45° .

GRASS DISEASE IN HORSES. THE CAUSE: A MEANS OF PREVENTION.

Various clinical manifestations of a toxic character to which the horse at grass is observed to be liable have been recognised, and referred to by our predecessors as "grass staggers," "stomach staggers," etc., and under these general terms have received a certain place in veterinary literature. But a toxic condition contracted already made on the essential pathology. The appearat grass, the essential pathology of which is paralysis, ance may be summarised in the single word: impacmore or less complete, of the alimentary tract, may be said to be unknown even to contemporary veterinary noted—the most striking feature however, falls to be said to be unknown even to contemporary veterinary to the most striking feature by far—impaction of literature. Obviously, it could hardly be otherwise; for

the condition known as "grass disease" was previous to 1913 unknown and unheard of; and outside of the affected areas it is almost unknown even now.

When the disease first appeared in 1913 the area of incidence was distinctly localised in North-eastern Forfarshire. In subsequent years it was found to extend with each successive season. Now, the area is recognised as co-extensive with the County of Forfar and the adjacent part of the County of Perth. Various manifestations of a toxic character to which the horse is known to be liable, especially at grass, must be regarded as among the problems never quite explained. A fresh manifestation, therefore, albeit unprecedented in virulence need not necessarily involve a series of factors, all of them entirely new. Admittedly, new factors are involved—for instance: the local conditions, modifying, perhaps, the virulence and the quantity of the toxin: so determining localisation.

Manifestly, the one aspect transcending others in urgency is the necessity for suppression and prevention; rendered more so by the fatality, by the near approach of another—the sixth—period of seasonal incidence, and by the heavier economic loss owing to the enormous appreciation in the commercial value of horses. It is this aspect that I propose to discuss. But discussion of the suppression and prevention of a disease unfamiliar certainly, to some even unknown perhaps, would seem to require something of the more or less correct per-spective that a prefatory reference to clinical and P.M.

aspects may, perhaps, afford.

Clinically, the disease is recognised in three forms: the acute, the subacute, and the chronic. The acute case may run its invariably fatal course in two or three days; the subacute its equally fatal course in as many weeks. The chronic case sometimes extends to several

In the very earliest stage, diagnosis not infrequently is in the last degree clusive, except to one who is by experience familiar with it; and, therefore, upon the alert. Sometimes on first examination Ptyalism is the only pathognomonic symptom upon which to found a diagnosis. This symptom occurs not continuously, but at varying intervals. The saliva has the consistence and appearance of water. It is liberated in the same manner, precisely, as water the moment after drinking, just when the head is restored to normal position. In both con-

The subacute and chronic stages are characterised by a group of symptoms almost any one of which is diagnostic, and so much in evidence as to challenge attention. Here, in addition to ptyalism there is patchy sweating, rigors, now to be observed in one group of shown in the illustration became detached; but the muscles then in another, well marked dysphagia, constidepressed plate of the frontal bone is still firmly pation-all presenting a truly characteristic ensemble, of which the crowning symptom is emaciation—marked from the first and rapidly progressive.

Constitutional disturbance as indicated by pulse and

temperature is, as a rule, not marked, nor, curiously enough, is appetite in complete abeyance. Contrary altogether to what might be expected, there is no cerebral disturbance. Nor is there any clouding of the senses; of this, even so delicate an index as the eye does not for a moment betray a symptom; in fact, the eye affords absolutely no indication of anything at all wrong with the patient, while all the time dissolution, inevitable from the first, is day by day drawing nearer.

P.M. appearances. These hardly stand in need of description here, if only be recalled the observation

more, perhaps, than anything else the deadly paralyses

in which the alimentary tract is involved.

In the intestinal mucose are to be observed certain In the intestinal mucosæ are to be observed certain changes—whether primary or secondary is a question. Obviously in assessing their import due allowance should be made for stasis, always complete; often prolonged, arrest of intestinal secretions—of biliary function; susceptibility of the intestinal mucosæ to irritant action of bowel contents. Above all its vulnerability to microbian infection. This allowance made, there is little reason, it should seem, to regard the changes in the mucosæ as other than secondary.

But to return to the question of suppression and prevention and the closely allied question of the probable source.

I would first refer to observations I may claim to have made of the circumstances attending what was the first and, so far as I am aware, the most disastrous outbreak that has yet occurred on any one farm, at all events in

that has yet occurred on any one farm, at all events in the County of Forfar.

This outbreak came under my observation in June, 1913, on the farm of Nether Careston, Brechin. Out of a total of ten horses four contracted grass disease, and all four died. As regards this outbreak may be remembered as important:—two circumstances, (1) the somewhat extraordinary luxuriance of the pastures; (2) the

what extraordinary luxuriance of the pastures; (2) the composition of these pastures.

Of the luxuriance the reader may judge—the horses were wading to the knees among grass in one field two years old, in another four years old. In this Cocksfoot, Timothy and rye grasses predominated; moreover these grasses, all of them, had attained a comparatively advanced stage of maturity when the disease appeared. Here a further circumstance must be taken into account. I refer to the feeding habit of horses on pastures such as described. Under no other conditions, perhaps, is to be described. Under no other conditions, perhaps, is to be observed so readily the operation of a selective instinct on the exclusive nature of their feeding—I mean on overgrown pastures, precisely the pastures, and no other—so far at least as I have observed, on which "grass disease" is found to occur.

far at least as 1 have observed, on which "grass disease" is found to occur.

They are, it is true, only the particular circumstances of a particular outbreak, typical nevertheless in every essential feature of other outbreaks (all of them isolated cases of "grass disease") which year by year have come under my observation. Indeed all subsequent observation has served to strengthen convictin based on observations at Nether Careston. The conclusion appears to me irreciptible—that grasses at certain stages of maturity. vations at Nether Careston. The conclusion appears to me irresistible—that grasses at certain stages of maturity are the probable source of the toxin. This conclusion may to some appear doubtful, to others it may, perhaps, seem altogether impossible. To those who entirely dissent, the idea of poisonous weeds is naturally one of the first to occur. But this presupposes that they must abound to an extent hitherto unknown within this area the first to occur. But this presupposes that they must abound to an extent hitherto unknown within this area and unsuspected outside of it, even now. No one at all familiar with the intensive methods of cultivation known to obtain generally throughout the infected area, and noticipally in the years, farms where for the great of the control of the c known to obtain generally throughout the infected area, and particularly on the very farms where for the most part the disease has appeared, can suppose poisonous weeds to be the source of the toxin. That there is a toxin formation properly inherent in pastures is a generally accepted view, of course. But what is not generally accepted, if indeed accepted at all, is the proposition of a toxin-formation in grasses at a certain stage of maturity; latent as a rule, yet capable of more or less active development under conditions not yet understood. My point is that the proposition stated is supported by two entirely different but converging lines of evidence. One has already come under review—the evidence. One has already come under review—the character of the pastures; on this further evidence will be adduced later. The second is afforded by the means of suppression and prevention attending the disappearance of the disease once and for all, I believe, from ance of the dise Nether Coreston.

In view of the unexample gravity of the outbreak, how to obviate further disaster became the most press-ing consideration. Thus was decided the use of the ing consideration. Thus was decided the use of the mowing machines on the overgrown pastures—with the gratifying result of no further trouble from grass disease that year. Adhering to the principle by which the result appeared to have been obtained, I recommended the following year a management of pastures intended for horses which should ensure from the first, and the season throughout, that they would be kept closely cropped, so closely at all events as to preclude the possibility of seeding. This practice was attended with the same satisfactory result as in the previous year—the year of the outbreak. What is more, year by year since the same principle of prevention has been observed consistently at Nether Coreston, and has been attended invariably with the same success.

consistently at Netner Coreston, and has been attenued invariably with the same success.

Such then are the facts as regards the highly noxious character of the Nether Coreston pastures in June, 1913; such the circumstances under which these pastures have

ever since proved innocuous.

It will, of course, be understood that it is not pretended to rate the results just stated as anything like proof final and incontrovertible as to cause and prevention. I am, nevertheless, convinced that the result

proof inal and incontrovertible as to cause and prevention. I am, nevertheless, convinced that the result attending this principle of prevention affords strong prima facie evidence in support of my conclusions on both these aspects of the problem; likewise in support of the claim to a fair trial on a more extended scale of a principle of prevention so readily available, so practicable and, withal, so successful within the limits of its proved application.

It can hardly be disputed that a normal element (or elements) of the pasture is associated with toxin; but in the problem of immediate prevention it is quite immaterial what constituent is directly concerned with toxin formation. The one material factor in prevention—so it appears to me—is the elimination from the pastures not of the toxin indeed, but of the conditions of toxin formation—luxuriance and maturity—and this throughout the whole period of seasonal incidence—from June to November inclusive. Let every emphasis be put on this point. be put on this point.

There is also the steadily accumulating evidence that grass disease is found to occur not only

grass disease is found to occur not only on grass lands in regular rotation, but also on grass not less than ten years old, and on grass lands which there is no reason to believe have ever been under the plough.

Obviously, consistent application this season of the practice adopted at Nether Coreston in the area of incidence generally, or even on all the farms in that area on which the disease is known to have occurred, and on every freshly invaded farm, the moment the disease is found there, would constitute fair evidence of its value—or otherwise.

or otherwise.
Until, on the consistent application of this test, the practice is proved to be ineffectual consideration may be deferred of the remaining alternative—the elimination from the pastures of the requisite conditions of toxin-formation by a radical change in their composition.

LAWRENCE McLAREN, M.R.C.V.S. Brechin, May 13.

Punch this week has a full page cartoon by L. Raven Hill, showing a half-starved, decrepit-looking "light vanner". On a wall in the background is a posting bill with prominent lines—"Food Control. Extra Rations for Heavy Workers." The legend beneath the picture is—UNDERFED. The working horse. "I suppose I don't

This should meet the eyes—possibly attract the atten-tion—of many whose knowledge of animal life and suffering is distinctly limited.

STRANGULATED COLON.

Young Australian remount mare, No. B1080, four years old, had been confined to a hospital loose box for two days, suffering from a slight abrasion on one knee. Her condition was good and health apparently normal. There was no previous veterinary history. She was quiet to handle, though unbroken, and, so far as I could ascertain, gave no trouble whilst being dressed.

On the third day following admission, at 12 noon, August 30, 1915, she was found to be showing sharp abdominal pain and received a colic draught,

which was followed by routine treatment.

At 6 p.m. no fæces had been passed. Dull pains were manifest, and the general symptoms were suggestive of an impacted large colon. The veterinary assistant in charge reported that he had made a rectal examination, but found nothing abnormal. Enemata were not immediately rejected. Eserine sal. 1 gr., Strych. sulph. ½ gr. were now given, but did not produce any action nor appreciably increase the pain. Stimulant treatment.

August 31, 6 a.m. Condition of animal reported as worse; no passage of bowels. Tympany marked, pain acute. Recommended passage of trocar, draught of oil and camphor; this gave temporary

Work outside the depot to-day prevented my further personal attention to the case. Vigorous stimulant treatment was persisted in but gave no relief, nor did it produce any action of the bowels. The animal died at 3 a.m. on September 1.

At post-mortem examination the cause of the stoppage was quickly apparent. A loop of the floating colon containing a lump of fæces had been strangled by the left ovary and its attachments, in fact the ovary, its ligament, and the corresponding horn of a sterile uterus were implicated in what, from want of a better description, I must call a "running knot," which, though not difficult to undo, required the assistance of a second party to re-tie. The obstruction lay at nearly a fore-arm's length from the anus.

The native veterinary assistant in charge, a man to be relied on usually, assured me that he had made a rectal examination on three occasions: he admits, however, that the animal was very restless. In such a condition it is easy to understand that great resistance would be made to rectal exploration, and that consequently it was imperfectly carried out. Furthermore, in the living animal in the standing position the obstruction lay, we may presume, somewhat more forward, but never out of

reach of the extended arm.

Taking into consideration the complete absence of bowel movement, and the state of congestion and necrosis of the organs involved in the strangulation, one must only conclude that the condition

existed from the onset of pain.

The offending ovary was healthy, very much congested, of course, owing to the strangulation in which it had involved itself; but its appearable, and the cow's tail was tied up so that it was ance suggested that normally it had been larger not fouled by the droppings. The udder was milked than the corresponding one.

Traction on the rectum would not, I am satisfied, have relieved the condition. Other surgical interference might—it was indicated. Unfortunately the state of affairs was not diagnosed.

J. J. KELLY, M.R.C.V.S., Remount Depot, Sargodha (Punjab).

THE VACCINE TREATMENT OF MAMMITIS IN CATTLE.

By HENRY B. Eve, M.R.C.V.S., Folkestone.

In my hands the ordinary methods of treatment for mastitis or mammitis in dairy cattle have been very unsatisfactory. By this I mean usual external applications, internal administration of drugs, and injection of medicated fluids into the glands. Personally, I am a great believer in the application of vaccine therapy treatment so far as my experience goes, which is limited to three cases all on one farm.

The three cases which I here place on record presented features which indicated a streptococcic origin, in that form of mastitis known as subacute. The vaccine used consisted of killed strepto—and staphylococci (Parke, Davis & Co.), which was subcutaneously injected into the fold of the skin above the udder and anterior to the patella. Each cow received altogether four injections, with three days interval between each dose. In each case after the second dose there was a slight improvement, the mammary secretions were more abundant, and the glandular substance was not so resistant. A week after the last dose the quarter affected was practically normal in every respects. The cowman informed me that the day after each injection the cows seemed deuced queer, tucked up in flanks and heaved (increased respiration). Unfortunately I could not note the thermal reaction as the farm was too far from my surgery, and I couldn't spare the time to make the necessary visits.

I took samples of the milk, which was yellowishwhite in colour and flocculent; in each case had it centrifugalised, and microscopically examined for tubercle bacilli. Only streptococci were found.

General treatment. The hind quarters, tail, and udder were washed with ethereal soap solution, and dried with a soft towel: incidentally also the milker's hands before milking. No liniments or ointments were applied externally as usual in such cases. No mag. sulph. administered internally; simply massage of the quarter affected twice daily, with a little neat's-foot oil, to prevent the soreness arising from the friction. The use of the milk syphon was absolutely barred, as (unless sterilised, which it is difficult to get an attendant to do) it is in my opinion a fruitful source of infection when used by the average cowman.

The cows were not allowed to be milked on the ground, but into a special bucket containing a disinfectant (Formalin). The bedding consisted of chippings (wood turnings) as straw was unavailevery two hours, the milk boiled for twenty minutes and given to the pigs-with no untoward results.

No. 1. Half-bred shorthorn. Cow seemed inclined to manifest symptoms of milk fever, so I insufflated oxygen into each quarter as animal was a likely subject, being in a plethoric condition. History of a previous attack not known; stated recently bought.

No. 2. Dutch. Developed a swelling in one hock, like septic arthritis, feared an abscess was forming. I decided to leave it alone: the swelling dispersed unaided gradually.

No. 3. Half-bred Hereford. Cow seemed to be developing pneumonia, so turned into a loose-box and gave her open-air treatment, with good results. and gave her open-air treatment, with good results. Temp. 106°. Sponged body over with cold water and gave quinine in bolus to reduce temperature, and rugged up. All the test animals recovered in due course, and no quarters were lost.

ABSTRACTS FROM FOREIGN JOURNALS.

ANTI-TETANIC SERUM IN ARTICULAR RHEUMATISM.

W. H. Dalrymple, in The American Journal of Veterinary Medicine, reports the following strange case. A horse affected with articular rheumatism was treated with sodium salicylate and the application of ointments to the joints. Only a slight and very transitory improvement was obtained from this; so a change of treatment was The author then heard of the case of a man affected with articular rheumatism, who completely recovered for the time, consequent on a prophylactic injection of anti-tetanic serum, given on account of a wound in the foot. He determined to try this treatment upon the horse. As a first dose he injected 1500 U.F. of anti-tetanic serum in in the vicinity of the affected joints, and followed this with three successive injections of 500 U.F. each, at intervals of from eight to ten days. Four or five days after the first injection a slight improvement was noticed. Six days after the second injection the limbs of the horse were still somewhat painful; but in from ten to twelve days after the administration of the third injection all the symptoms had disappeared. The horse had perfectly recovered, and worked as well as before his illness.

Intravenous injections of Camphor in THE TREATMENT OF EQUINE INFECTIONS

Brachmann has used intravenous injections of sterilised saturated aqueous solutions of camphor in the treatment of equine pneumonia with good results. Ehrhard, of the Veterinary Institute of the Faculty of Zurich, has used the injection in over 150 cases of equine infections (strangles, bronchitis, influenza, purpura hæmorrhagica, and contagious pleuro-pneumonia), and also in some cases of septic metritis in the cow. The results were superior to all expectations. Except in some grave cases of contagious pneumonia and of purpura hæmorrhagica, recovery was always obtained.

The concentrated aqueous solution of camphor is prepared as follows:

saturated alcoholic solution of camphor is added drop by drop to a litre of sterilised physiologic solution until precipitation appears. The solution is then filtered, after which it is sufficiently limpid. The dose for a horse is from 900 to 1200 grammes according to the size of the animal. The general stimulant action of the camphor becomes manifest immediately. The treatment is much manifest immediately. The treatment is much more economical than the use of salvarsan, and does not give rise to the toxic phenomena and parenchymatous degenerations which that drug causes.—(La Clinica Veterinaria).

FEEDING WHEAT TO SWINE.

In this experiment, the hogs fed wheat made more rapid gains than did the hogs fed corn.

For the entire 120-day feeding period the wheatfed hogs made an average daily gain of 1.25 pounds per head per day while the corn fed hogs gained on the average of 1 pound.

In terms of pounds of grain required to produce 100 pounds gain the hogs fed wheat made more economical gains than did the hogs fed corn.

It required 483 pounds of wheat to produce 100 pounds of gain as compared with 582 pounds of corn under similar conditions.

A mixture of wheat and corn, equal parts, proved to be a more efficient ration, both so far as rate and economy of gains were concerned, than corn alone, but less efficient than wheat alone.

A ration of corn ten parts and tankage one part produced more rapid gains than did corn alone.

For the entire 120 day feeding period the ration

of corn ten parts, tankage one part produced a daily gain of 1.27 pounds per head as compared with an average daily gain of one pound per head made with the corn alone ration.

It required less grain to produce 100 pounds of gain when the corn was supplemented with tankage. In this experiment 498 pounds of a ration of corn ten, tankage 1 part produced as much gain as did 582 pounds of corn alone under similar conditions.

The addition of tankage to the wheat ration showed a decided advantage during the first part of feeding trial.

For the first 78 days of the test the ration of For the first 78 days of the test the ration of wheat ten parts, tankage one part produced an average daily gain of 1.55 pounds, while the wheat alone ration produced only an average daily gain of 1.25 pounds. For this period 424 pounds of the wheat and tankage ration produced 100 pounds of wheat alone was required gain while 455 pounds of wheat alone was required for each 100 pounds of gain.

During the last 42 days of the trial the hogs fed During the last 42 days of the trial the hogs fed tankage, in addition to the wheat, again made more rapid gains, 1.53 pounds per head per day as compared with 1.26 pounds. The gain, however, was scarcely as economical. For this period it required 543 pounds of wheat alone to produce 100 pounds gain or 562 pounds of the wheat and tankage

A ration of wheat ten parts, tankage one part produced more rapid gains than did either a ration

of wheat five parts, corn five parts, and tankage one part, or a ration of corn ten parts, tankage one part. The gain was also more economical. Likewise the ration of wheat five, corn five, tankage one proved more efficient than the ration of corn ten, tankage one.

Each 469 pounds of the wheat and tankage ration produced 100 pounds gain at the rate of 1.52 pounds per hog daily. It required 485 pounds of the wheat, corn and tankage ration to produce 100 pounds gain at the rate of 1.44 pounds per head daily. While 498 pounds of the corn and tankage produced 100 pounds gain at the rate of 1.27 pounds per head daily.—Univ. Missouri Bull.

W. R. C.

VETERINARY SURGEONS ACT FOR S. AFRICA.

We are indebted to Col. J. Irvine Smith, of Johannesburg, for copy of the Draft Veterinary Bill agreed to by the Veterinary Profession in South Africa, and submitted to the Honourable the Minister for Agriculture for introduction to the South African Parliament.

We give here the section on the Constitution (Cap. I),

We give here the section on the Constitution (Cap. I), and extracts from Regulations therefor. It will be seen that, in the main, the lines are those of the British Acts, but there are differences, and there are elements to be dealt with widely different from our own. Many of our graduates are, or will be, interested in the working of this Bill when it becomes law.

BILL

To consolidate extend and amend the laws in force in the Union relating to Veterinary Surgeons and as to other matters connected therewith or relating thereto.

(To be introduced by the Minister of Agriculture).

BE IT ENACTED by the King's Most Excellent Majesty, the Senate and the House of Assembly of the Union of South Africa, as follows:—

CHAPTER I.—VETERINARY COUNCIL.

Constituion. 1. (1) As from the commencement of this Act there shall be established for the Union a Council consisting of eleven Veterinary Surgeons, appointed and elected as hereinafter prescribed, to be styled "The South African Veterinary Council," which may be increased in number in circumstances described in sub-section (5) of this section. (2) Except in the case of the appointment or election of a member to fill the vacancy which may have occurred from any cause described in section two, the members of the council shall be appointed or elected for periods of five years, and at the end of every such period they shall vacate office; but any member so vacating office shall be eligible for reappointment or re-election. (3) On a date not less than three months prior to the commencement of each such quinquennial period the Minister shall appoint two Veterinary Surgeons to be members of the Council, for the ensuing period of five years, the said appointment being made and notified in the Gazette before the date fixed for the calling for nominations, as prescribed in the First Schedule to this Act, for the election of members to the council for the same period.

(4) As soon as the Minister has made the appointments referred to in sub-section (3) the necessary steps shall be taken as prescribed in the First Schedule to this Act for the election by the Veterinary Surgeons envelopes

registered and resident within the Union, of nine Veterinary Surgeons to be members of the council.

Provided that not more than three elected Veterinary Surgeons shall be resident in any one Province of the Union:

Provided further that, at the first election, no voter shall, by reason of being registered in more than one Province, be entitled to return more than one voting

(5) Every university in the Union in which a faculty of Veterinary Science is or becomes lawfully established shall appoint a Veterinary Surgeon (being a member of the governing body or of the staff of such university) to be a member of the council, and every such member shall hold office for the same period or unexpired portion of a period as if such member had been appointed or elected in manner above prescribed.

(6) The elections referred to in sub-section (4) and every election to fill a casual vacancy, shall be held in accordance with the provisions set out in the First Schedule to this Act, or any amendment thereof made under sub-section (2) of section twelve.

(Continued * 2, below).

[The Constitution of the Council is given above in full. Subsequent sections are given in part or in outline only.]

First Schedule.—Regulations referred to, Sec. 3, above.

Notice of Nominations. 1. (1) On a date not less than three months prior to the commencement of this Act, and thereafter on a date not less than three months prior to the day upon which the period of office of the members of the council then holding office will expire, or in the event of a vacancy (see Sec. 2), notice shall be given in the Gazette in the form, as nearly as may be, set forth in the First Annexure to this Schedule, appointing:—(a) the latest date on which the nominations shall be received (not less than three nor more than four weeks after the date of publication of the notice); (b) a person as returning officer, by whom, and an address at which, any such nomination will be received.

2. Said notice and appointment shall be made, in the election of the first council, by the Minister, and, in subsequent elections, by the President of the council.

Conditions of Nomination. 2. (1) No person shall be eligible for election to the council, unless:—(a) he is registered as a Veterinary Surgeon; and (b) a nomination, in due form, is delivered.

tion, in due form, is delivered.

Each candidate must be nominated by a separate nomination paper, but any person entitled to vote at the election may sign the nomination paper of a candidate or of any number of candidates not exceeding the number to be elected.

Every nomination paper must state the Christian name in full and surname of the candidate nominated, and must be signed by two (or more) registered Veterinary Surgeons, and also by the person nominated, acknowledging that he consents to be nominated; and the address and registered qualifications of each one so signing must be appended to his signature.

(3) In the case of an election to fill a casual vacancy no person shall be deemed to be validly nominated if resident in a province already represented on the council by the maximum number of elected members prescribed for any one province under sub-section (4) of section one of this Act.

Further Regulations concern:—Notice of Election; Transmission of voting papers; Manner of voting—

Manner of counting votes. 6. (1) The returning officer shall . . . in conjunction with a scrutineer nominated by the Minister examine the identification envelopes

(2b) In the event of the number of votes recorded for (2b) In the event of the number of votes recorded for any two or more candidates being found to be equal and of the equality affecting the result of the election, the returning officer shall immediately determine the election by lot in the presence of the scrutineer.
(3) Any candidate for election may be present in person or by deputy at and after the opening of the ballot box.

Publication of names and number of votes. 7 (By Minister for first; by President of Council for sub

(by anniseer of mest, sequent).

The form of Voting Paper carries the official mark of Returning Officer, and four columns:—For voter's mark; for names of all validly nominated candidates in alphanorm and the sequence of their varieties of address: for their for names of all validly nominated candidates in apprabetical order; for their registered address; for their registered qualifications.

A voting paper will be invalidated if the voter:—
(a), (b), (c), (d): (usual ballot regulations).

(e) returns his voting paper otherwise than in the identification envelope, which envelope must be filled in and signed by the voter.

Form of Identification Envelope.

I. (Name in full).......of......hereby declare that I am the person to whom the enclosed voting paper was addressed, that I am a Veterinary Surgeon registered in......, and that I have not returned any other voting paper in this election.

(Signed)

Parietzered anylifactions

(Signed)..... Registered qualifications...... Place..... Date.

*2. Vacancies. (1) A member shall vacate his office:—if he become insolvent, etc.; (b) if he absents himself from more than two consecutive ordinary meetings of the council without its leave; or (c) if he has been disqualified under this Act from carrying on his profession or calling; or (d) if, as an elected member, he gives notice in writing to the council (or to the Minister or university as the case may be) of his desire to resign office, and his resignation is accepted. (2) Every such vacancy and every vacancy caused by death shall be filled by appointment or election (accordingly) and such member shall hold office only for the unexpired portion of the period.

President and Vice-President. 3. (1) At the first

nnexpired portion of the period.

President and Vice-President. 3. (1) At the first meeting of every newly-elected council, a President and Vice-President shall be elected by the members of the council. and shall hold office during the term of office of the council The Vice-President may, in the absence of the President . . . exercise any or all absence of the President . . . exercise any or all of the powers, duties and functions assigned to the President.

(2) If the President and Vice-President are absent from any meeting, the members present shall elect one of their number to preside at that meeting and the

of their number to preside at that meeting and the person so presiding may during that meeting and until the return to duty of the President or of the Vice-President exercise all powers.

(3) . . . If the President or Vice-President vacates office a new President or a new Vice-President shall at the next or as soon thereafter as may be convenient be elected.

Meetings. 4. For the first meeting of the first council, place and date to be fixed by the Minister. The ordinary meetings held at least oncein each year. Special meetings may be convened by the President and shall be convened by him upon the requisition in writing of at least four members of the council: Provided that the said requisition shall state clearly the purpose for which the meeting is to be convened.

Quorum. 5. Five members at any ordinary or special meeting of the council.

Proceedings at meetings. 6. All acts of council shall be decided by a majority of the votes of the members present at any meeting. A President, in addition to his vote as a member, shall, in case of an equality of votes, have a casting vote also.

Executive and other Committees. 7. May appoint from its members, and may delegate to such committees powers, jurisdiction, and duties as it may determine.

Offices of Council. 8. The office of the council shall be at such place as the council may decide subject to the approval of the Minister; but nothing herein contained shall prevent the holding of meetings of the council, or of examinations, at any other place within the Union.

Appointment of Registrar and Staff, and legal adviser. 9. The council may appoint for its service a Registrar who shall also be Secretary, and may appoint such other persons as may be necessary for conducting its business, and may remove any such other persons. The appointment or removal of a Registrar shall be subject to the approval of the Minister. The council may from time to time appoint a legal adviser.

May suce and be suced hold proposity and investigations.

May sue and be sued, hold property and invest funds. 10. The council shall be deemed to be a corporate body: may institute and defend legal proceedings, purchase or acquire or hire and hold property, and dispose of the same in any manner and enter into contracts relative thereto, and may invest its surplus funds in any way that it may deem fit.

Revenue and accounts. 11. Registration and examination fees and any other moneys payable under this Act in respect of a Veterinary Surgeon shall be paid to the council. Accounts kept in a form to be prescribed by regulation and audited annually by the Controller and Auditor-General.

Amendment of Schedule. 12. The Governor-Genany provision contained in the said First Schedule if it appears to him that such alteration or amendment is necessary to the better carrying out of the provisions of the said schedule.

Chap. 2.—Registration of Veterinary Surgeons.

CHAP. 2.—REGISTRATION OF VETERINARY SURGEONS.

Provincial registration recognised throughout the Union. 14. As from the commencement of this Act every person who is or has been registered and entitled to practice as a Veterinary Surgeon under a scheduled law in any province shall, subject to the provisions of sub-section (2) of section fifteen be deemed to be registered under this Act for the whole Union as a Veterinary Surgeon, and shall thereby be entitled, subject to the provisions of this Act or any amendment thereof, to practice or carry on within the Union the profession or calling of a Veterinary Surgeon.

Constitution of Register. 15. As from the com-

profession or caning of a veterinary Surgeon.

Constitution of Register. 15. As from the commencement of this Act a register of Veterinary Surgeons shall be kept in which shall be entered the names, addresses, qualifications, dates of their first registration, and such other particulars as may be prescribed by the

council.

As soon as possible after the commencement of this Act the said particulars shall, without payment of any fee, be enrolled upon the register: Provided that, in the case of any such person whose address on any of the provincial registers existing at the commencement of this Act is outside South Africa, or is recorded as unknown, or is insufficient for registration purposes, the name of such person shall not be entered upon the register nor shall he be entitled to carry on his profession or calling within the Union unless and until he produces proof

that he is resident within South Africa, together with such proof of identity as the council may require.

The date of first registration shall be the date when registered for the first time in any province and in every other case shall mean the date when the person was registered under this Act.

Rectification of Registers. 16. Registrar to keep the register correct in accordance with the provisions of this Act or of any rule or order made thereunder.

Every registered person who changes his address to intimate the fact to the Registrar within one month of

Every provincial Registrar of Deaths shall after he receives a death notice in which the profession or calling of the deceased is stated to have been that of a Veterinary Surgeon shall notify the Registrar of such death as soon as possible.

Any entry which is proved to the satisfaction of the council to have been made through fraudulent representation or under circumstances not authorised by law, may be erased from the register and a record of the reason for every such erasure shall be made in the register, and any certificate issued in respect of any such registration shall be deemed to be cancelled as from the date of the erasure.

(To be concluded)

Detached bony growth in a mare.

An operation which is believed to be unique in veterinary science has been performed on an army cast mare of the roadster type by Mr. J. G. Reynard, M.R.C.V.S., Perth. The mare, which was bought without warrant, had a hard substance under the skin on the right thigh. The owner consulted Mr. Reynard, who concluded from the shape and position of the foreign body in the leg, that a piece of shrapnel had obtained lodgment. An old wound in the flank seemed to confirm this diagnosis. The mare was placed in the stocks at McEwan's Smithy, where the operation was performed. Four grains of cocaine were administered and the necessary incision was made. To the surprise of the operator, the foreign body was found to be a growing flat bone, like a shoulder bone, about eight inches long and from three inches wide at the lower part to nearly two inches at the upper end. The thickness was from one eighth of an inch at the sides to one half inch in the middle. The mare, which is about nine years old, stood the operation remarkably well, and comparatively little blood was lost: three large stitches were put in. The bone, in several respects, resembles the scapula of a horse. Mr. Reynard has forwarded the specimen to the Veterinary College, reaction of the bone will give the mare relief. Asked his opinion regarding how a growing bone which had to be cut away from the live tissues of the leg at a part where the muscles are the strongest, came to be where it was, Mr. Reynard said his theory was that a small piece of bone, as a result of a bullet or shrapnel, had been blown off the innominate or pelvic bone and had lodged in this part with a piece of the periosteum still adhering to the main bone and to the part broken off. The operation was a much bigger thing that Mr. Reynard had anticipated: the tissues were adherent to the foreign body and had to be dissected therefrom all the Hon. Treasrs.: way round.

[There were several instances of detached bony growth reported and commented upon in these pages some years ago, but these were in bovines. The reporter's mention

of periosteum seems to suggest that it is a factor of the growth of bone: that view was disproved several years ago. It is now held to serve only as a containing membrane, and to restrict growth.]

ARMY VETERINARY SERVICE

War Office, May 20.

The following dispatch has been received by the Secretary of State for War :-

General Headquarters, April 7, 1918. My Lord,—I have the honour to submit a list of names of those officers serving, or who have served under my command during the period September 25, 1917, to midnight, February 24-25, 1918, whose distinguished and gallant services and devotion to duty I consider deserving of special mention.

I have the honour to be, my Lord, Your obedient Servant, D. HAIG, Commander-in-Chief, The British Armies in France.

STAFF.—A.V.C.

STAFF.—A.V.C.

Capt. (actg. Maj.) P. Abson; Capt. (temp. Maj.) R G. Anderson; Capt. (actg. Maj.) A. B. Bowhay; Capt. (actg. Maj.) W. F. L. Bright; Temp. Maj. F. C. Gavin; Maj. H. Greenfield; Maj. H. J. Holness; Capt. (temp. Maj.) J. C. Jones; Maj. (actg. Lt.-Col.) G. P. Knott; Maj. (temp. Lt.-Col.) W. A. McDougall, D.S.O., R. of O.; Maj. (temp. Lt.-Col.) A. W. Mason, F.R.C.V.S., V.D.; Maj. (temp. Lt.-Col.) W. H. Nicol; Capt. (actg. Maj.) J. W. O'Kelly; Maj. (temp. Lt.-Col.) W. A. Pallin, D.S.O., F.R.C.V.S.; Maj. (actg. Lt.-Col.) E. M. Perry, F.R.C.V.S.; Capt. (temp. Maj.) W. N. Rowston; Maj. J. R. Steevenson; Temp. Maj. R. J. Stordy, D.S.O.; Maj. E. J. Wadley, D.S.O.; Capt. (actg. Maj.) J. H. Wright.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL,

REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Maj. R. J. Stordy, p.s.o., to be actg. Lieut.-Col. whilst holding the appt. of A.D.V.S. (Apl. 29).

Lt.-Col. (temp. Col.) W. D. Smith, c.m.g., p.s.o., to be temp. Brig.-Gen. whilst empld. as a Dir. of Veterinary Servs. (Nov. 5, 1917).

Temp. Lt. to be temp. Capt.: A. H. McDougall (May 8).

SPECIAL RESERVE OF OFFICERS.

May 22. Temp. Capt. to be Capt. :- Vincent Boyle (May 23, sen. July 19, 1916).

The following casualty is reported:--

WOUNDED—Capt. L. L. Paterson, Aust. A.V.C.

ANGLO-FRANCO-BELGIAN VETERINARY RELIEF FUND.

British Committee.

F. W. Garnett, C.B.E., J.P., M.R.C.V.S.

J. A. W. Dollar, M.R.C.v.s.

T. Salusbury Price, M.R.C.v.s. Hon. Secs. :

Sir Stewart Stockman, M.R.C.V.S.) Fred Bullock,

10 Red Lion Square, London, W.C.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Period.		A	Anthrax			ot- Iouth ase.	Glan	ders.†		sitic nge. ‡		Swine Fever.		
		bre	Out- breaks mals.	ls.	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered,	
Gt. BRITAIN. Weel	k ended	May 1	9	1	4					69	124	2	40	14
Corresponding week in	1 19	916 .	14	1 1						51 44 29	93 69 52	6 1 3	66 140 107	24 438 392
Total for 20 weeks, I	1918		12	1 13	9			15	38	2476	4752	229	459	154
Corresponding period in	19	16 .	25 26 31	5 30	9	1	24	11 21 12	20 62 17	1348 1200 ‡282	2771 3040 ‡653	364 170 151	1053 1924 1597	444 6070 6947

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive () Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :-

Board of Agriculture and Fisheries, May 21, 1918

Excluding outbreaks in army horses.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:—

Alfred F. O'Dea, Tuam	£1	1	0
William Malcolm Lyon, Wooler	1	1	0
William Walker, Capt. A.v.c.	1	1	0
Previously acknowledged	737	8	5
	£740	11	5

Personal.

CASTLE—FILLEUL. On the 16th May, at St. Michael's and All Angels, Turnham Green, Capt. A. J. Castle, M.M., the Rifle Brigade, sixth son of the late J. L. Castle, M.R.C.V.S., to Constance Emily Filleul, eldest daughter of F. G. Filleul, Chiswick.

OBITUARY.

ROBERT MITCHELL, M.R.C.V.S., Glasgow. H. & A. S., 1859; Edin: Jan., 1880. Mr. Mitchell died 17th May, aged 81.

PRIME.—On May 6, at 21 Westow Hill, Upper Norwood, S.E., Thomas Robert Prime, chemist and druggist, Aged 71.—The Pharmaceutical Journal.

Development in Wool-bearing.

"The amount of wool which the mediaval sheep provided was very small. The average weight of a fleece at Stockton in Sussex in 1267 was one pound one ounce, and the weight was seldom more than two pounds. The

quality also was coarse and the fibre full of hairs. As to the price, Professor Rogers estimates that the average between the years 1260 and 1400 was just over two shillings the clove of seven pounds. The same authority notes a great variation in the prices of different districts in 1454; for at Leominster a sack of 364 pounds fetched £13, and in Sussex only £2 10s. But wool does not as a rule appear in the bailiff's accounts, as its sale was effected by a special officer. After the shearing it was put up in canvas packs and sometimes stored in the church."

Horse suffers from Gout.

In a cruelty case at Old Street Police Court, on Mon-In a cruelty case at Old Street Police Court, on Monday, 20th inst., a veterinary surgeon said the horse was suffering from gout. It had a temperature of 104½, and its legs were swollen. The food at the present time would induce this state of health. Mr. Clarke Hall (the magistrate) asked whether a horse's temperature was similar to that of a man and whether it could have poor man's gout. The witness replied that it could.

The carman was fined 23s. for working the horse in an unfit state.

A Mange prosecution. Fine £15.

At Southampton Police Court on Tuesday, 14th inst., John Richards, horsekeeper, was summoned for obstructing an inspector under the Diseases of Animals Act, and A. H. Crabb, baker, Lodge Road, his employer, was summoned on three informations for refusing admission to the inspector, not keeping horses affected with parasitic mange separate from other horses, and not giving notice to the police of animals so affected. Mr. A. J. Rogers prosecuted on behalf of the Town Clerk, and Mr. E. R. Ensor defended.

Mr. Rogers explained that on Thursday, April 18th, Mr. F. Gould, the veterinary inspector under the Act, visited Mr. Crabbe's stables and saw six horses, four being together in one part, and two in another. One of each set of animals was suffering from the same disease, and the signs were apparent to the inspector, who in due course served the necessary notices and treated the horses so successfully that a cure was effected. On Sunday, May 5th, the inspector again went to the stables to see the horses in order to make the necessary return to the Board of Agriculture, and was met by Richards, who placed his back against the door and said: "You shau't come here; I'm acting under the governor's instructions." Before Mr. Gould left Richards placed hims If in a fighting attitude. The next morning the inspector returned with Police constable Marchant and saw both defendants, and told Crabb he wanted to enter the premises, when he was again obstructed. As a result, ir cordings were instituted.

In reply to Mr. Ensor, the inspector said he treated

the animals at Crabb's request.

Mr. Ensor: You were an inspector under the Board

of Agriculture and a veterinary surgeon as well.

Mr. Gould said that in one case the disease had

existed for about three weeks.

Mr. Ensor remarked upon the speedy cure effected, and suggested that the inspector was mistaken in his diagnesis, but the witness persisted that the two animals were suffering from parasitic mange, which he proved by a microscopic test.

Mr. Percy Gould, who assists his brother, corroborated. Mr. Ensor submitted that the question was whether Mr. Crabb knew of the existence of the disease, or with reasonable diligence could have discovered it. Both employer and his man knew of the danger of parasitic mange, and it was not to be supposed they would keep horses so affected locked up with others.

Mr. Dellagana, F.R.C.V.S., who examined the animals on May 4th, stated there were old marks of ringworm,

but no signs of parasitic mange.

Mr. Tutt, M.R.C.v.s., of Winchester, who was with the previous wirress at the examination, confirmed the latter's statement.

Prof. Macqueen, of the Royal Veterinary College,

London, gave evidence to a similar effect.

Mr. Rogers: Have you tested Mr. Gould's prepara-

tion?-The Professor said he had not tested it.

The defendants gave evidence, and after a long hearing the Bench fined Crabb £5 for obstruction and £10 in respect to one of the horses, and costs in the other case, in all £16 15s. The case against the horsekeeper was dismissed.—Southampton Times and Hampshire Express.

Anti-abortion vaccine in Ayrshire.

Mr. T. A. Douglas, County Veterinary Inspector, has submitted to the Executive Committee of the Local Authority of the County of Ayr his report on the immunization of cattle with Anti-abortion Vaccine A. for the season 1917-18.

The report states that "2658 animals were inoculated at 132 individual farms. At these farms previous to inoculation 1388 animals aborted, showing an average of 52.2 abortions. Since inoculation 72 of these farms have become immune or clear of abortion: at the remainder of the farms 130 animals, or a percentage of 4.8 have aborted.

The whole result is very satisfactory, especially the

fact that 72 farms are now clear of the disease.

For the fourth season, 1917-18, to date, I have inoculated 1946 animals at 139 farms and made 224 visits. At 47 of these farms no animals had previously been immunised."

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VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1560

JUNE 1, 1918.

VOL. XXX.

THE ANNUAL GENERAL MEETING.

A large attendance at the Annual General Meeting next Wednesday cannot be hoped for; but that is no reason why an effort should not be made to obtain at least a respectable one. A few London members may effect this if they choose; but it is hardly likely that others will be able to do so. Country members, who upon the whole attend this meeting better than their Metropolitan colleagues, will probably find it more difficult to get away than ever before; but Londoners are under no such disability, and the meeting is worth attending. There are many subjects, especially recent Government actions, affecting our profession, the discussion of which might elicit valuable information; and such discussion would be most likely to arise in a well-Those members who can attended meeting. attend - many if not most London members canought to do so.

CLINICAL RECORDS.

In last week's issue, in addition to the article on "Grass Disease" there were five other clinical notes. None was devoid of interest; more than one possessed interest above the average. Evidence has since reached us that the issue was appreciated by readers: so far this is gratifying; but we cannot avoid the unpleasant reflection that six clinical notes ought not to be such an unusual number. There is experience enough amongst our readers to supply more than that number, and of equal quality, every week, if members would overcome their de-plorable reluctance to report cases. Every member often meets noteworthy cases; but the majority never report one in their lives, and that has been the rule throughout the history of the profession. Our clinical records have always emanated mainly from a very few men; and the amount of good work which these have done only shows how much more might be accomplished if other members would follow their example. The writing of a simple and lucid clinical report for colleagues should be an easy task; and if half the practitioners on the Register would undertake it once a year our clinical records would rise to considerable proportions. It is quite certain that every member with even an average practice sees much more than one case a year well worth adding to those records. Many of those who let their clinical experience pass unrecorded are able and observant clinicians—some, indeed, are well in advance of the average practitioner-and this only renders their silence more lamentable. Every man can render this one service to the profession-he can enrich its clinical records.

GRASS DISEASE.

I have read with some interest the article on this subject in the current issue of The Veterinary Record. Mr. McLaren seems to indicate that previous to 1913 the condition he describes was unknown and unheard of, but I would suggest that it is of the same nature as that which the late Prof. Robertson described in his "Equine Medicine" as "Enzootic Paraplegia or Grass Staggers."

Robertson differentiated the condition from Stomach or Sleepy Staggers," and stated that it rarely or never occurred on any food save rye grass, and then under certain conditions of its growth. He gives the seasonal incidence as from the end of June to the end of August, and that it was more frequent in warm, dry seasons than under opposite conditions.

"The particular period when the grass seems likely to induce this disturbed innervation is when the flower having been developed the stem becomes somewhat dry and hard looking, and the seed is being matured."—Idem.

Robertson's prognosis was more favourable than that given by Mr. McLaren, for he states that animals which maintain the standing position usually recovered. A dose of aloes was always given.

Disease of the cerebro-spinal nervous system of uncertain origin and nature is rather common in some seasons among domestic animals, and particularly so with cattle. I have already seen cases on five farms this spring. Some years one may scarcely see a case, and another year meet with many; and again, one series of cases may be of a mild type and another of a more fatal character.

It is to be hoped that Mr. McLaren's article may draw some clinical reports from different parts of the country.

F. T. HARVEY, F.R.C.V.S.

TO RAISE A FALLEN HORSE WITH A ROPE.

I herewith enclose a cutting from the American Journal of Veterinary Medicine. The article was sent to me by a south country friend. I was much struck with the idea, and last week I had an opportunity to give it a trial.

A heavy four-year-old Clydesdale mare got into a deep ditch; when pulled out she was unable to get up. The mare was got on to a hay sled and taken to the farm building, and put into a large, airy loose box on a good bed of straw. She was well nursed, and turned every six hours; feeding well, but she neither could nor would attempt to get up,

although frequently tried. After laying two days, I decided to try the rope instead of the slings to lift her. The rope was put on (a good, thick block pulley rope), as described in the cutting. The hook of the pulley block was attached to the ropes just behind the withers, then the mare was raised within half an hour right up on to all her four feet without any trouble. I am delighted with the method. The slings were then put under her, and she is doing well.

Not having either seen or heard of this idea before I think it will interest some of your readers, hence I send on this note to The Record.

Hy. Thompson, M.R.C.V.S.

Aspatria, May 27.

"At the recent Detroit meeting of the A.V.M.A., in the discussion among a number of veterinarians, there was much interest expressed in a method which I have devised for raising a horse from the recumbent position without the use of a sling, but with only the rope to be found in any barn or on any farm. This method may found in any barn or on any farm. This method may have been used and described by others, but I am unaware of the fact, so I think the profession might be interested in the method.

The only articles required are a block and tackle of sufficient strength to raise the horse, and thirty feet or more of rope, one-half inch or more in thickness. The block is fastened to the ceiling or any other place above

the horse in the usual manner.

The rope is handled as follows, first being doubled:

1. Pass the doubled end of the rope over the head

backward to where the collar rests on the neck.

2. Pass free ends of the rope between the front legs,

 Pass free ends of the rope between the front legs, crossing it once, just before it goes between the legs.
 Pass lower rope under body, so that it emerges just posterior to the withers.
 Lay upper rope over thorax, so as to cross lower rope at this point.
 Bring lower rope over body and between hind legs.
 Pass upper rope under body in a position to correspond to the other rope, bringing it back between the bird legs. hind legs. Cross the ropes at this point.
7. Bring both ropes up over buttocks, one on each

side of the tail.

8. Pass forward along the spinal column under the

side of the tail.

8. Pass forward along the spinal column under the ropes where they cross on the back, and tie to point where the rope lies on the top of the neck.

9. Insert hook of block at point where the ropes passing over the back cross, being careful to engage all the ropes at this point, namely, the single strands crossing to go between the hind limbs and the double strand coming from each side of the tail to the neck.

All ropes should be drawn as tightly as possible before the knot is tied, so that all slack is taken up.

This sling is very easily applied (one man can do it in a pinch) and the horse in his struggles cannot fall out of it. The body is always right side up, neither end higher than the other, and the feet are always in a position so that they can be utilised to the best advantage. Contrary to this, a sling is hard to apply, considerable strength is required to pass a canvas under a horse; the accessory harness cannot be easily adjusted; in the process of raising, the horse will lunge and fall out or turn on his side; and, furthermore, as is not the case with the rope sling, the broad belly band of canvas so constricts the thorax that in case the horse does not at once attempt to use his legs, he must be let down for fear of suffocation. This fear of suffocation is one objection to the use of the chain block, which is slow in its action, whereas with the rope sling, this feature can

be disregarded, as the ropes do not constrict the lungs

sufficiently to produce suffocation. I had one horse which hung for forty minutes before he decided to stand up, without appreciable discomfort to the respiration. Once the practitioner tries this method, he will nevermore use his sling for this procedure, but will raise the horse in half the time, and with a minimum of discomfort both to the horse and to his proof of the product of the product of the process of the proof of the product fort, both to the horse and to himself. Carnegie, Pa. A. C. WIGHT.

ABSTRACTS FROM FOREIGN JOURNALS.

PARAFFIN IN THE TREATMENT OF BURNS.

A. J. Hiell has contributed an article upon this subject to El Monitor de la Farmacia y de la Terapéutica. He records the excellent results obtained in the treatment of burns by using the ambrine of Dr. Barthe, of Sandfort. As the composition of ambrine belongs to a commercial society and is secret, he has sought for a substitute having its essential advantages. After many experiments he has arrived at the following formula, which, according to him, gives results superior to those of ambrine.

Resorcin	 1
Essence of Eucalyptus	 2
Olive oil	 5
Vaseline	 25
Hard Paraffin	 67

The hard paraffin is melted, and the vaseline and olive oil are added. The resorcin is dissolved in the least possible quantity of absolute alcohol, and this alcoholic solution is added to the mixture, allowing it to cool to about 35° C., and finally adding the essence of eucalyptus.

As resorcin is now difficult to procure in large quantity, the preceding formula may be modified by substituting for the resorcin: Naphthol B., 0.25; and increasing Hard Paraffin to 67.75.

The burned part is washed with sterile water and then dried. The drying is done with gauze, or preferably by means of warm air produced by an apparatus similar to those used by hairdressers, The burn is covered with a layer of the paraffin composition at a temperature of 50° C., applied by means of a large flat brush. A thin layer of cotton wool is placed over this layer of paraffin. This is again covered with a second layer of paraffin; and then the whole is finally covered with cotton wool and a bandage is applied. Usually this treatment is repeated every twenty-four hours at first; and, at the end of a few days, when only an insignificant quantity of pus is present, the intervals between the applications of treatment are lengthened to forty eight hours .- (Revista de Higiene y Sanidad Pecuarias).

AMBRINE IN THE TREATMENT OF BURNS.

Barthe, of Sandfort, has published an article upon this subject in El Monitor de la Farmacia y de la Terapeutica for 1917. Ambrine, a mixture of paraffin and resin, is a substance of an amber-like colour, resinous odour, solid consistence, and density approximating to that of the paraffins. It liquefies between 48° and 50° C., forming a syrup-like liquid which may be subjected to a temperature of 125° C. without altering its properties; and its asepsis may be secured.

Ambrine may be applied at a temperature of about 70° C. without causing the least pain to the patient. It solidifies at less than 45°C., and has the property of maintaining a temperature approximate to 40° C. for a long time. Twenty-four hours after applying the treatment, the ambrine still preserves the same temperature. It is one of the characteristics of this treatment that it is, up to a certain point, a hyper-thermic one, maintaining the tissues at an elevated temperature which favours cellular proliferation.

The ambrine is broken into pieces and placed in a vessel upon a slow fire; and, after melting, the temperature is carefully raised to 125°C. It is then cooled to about 70°C., at which temperature it other business was taken. To this the meeting assented. The ambrine is broken into pieces and placed in

should be applied.

The lesion is first washed with a little physiological serum or water; and a small quantity of ambrine is applied to it by means of a spraying apparatus, or more simply with a sterilised brush. The ambrine solidifies into a thin pellicle covering the whole of the lesion. Over this a small layer of sterilised cotton wool is placed, over this again a fresh layer of ambrine, and then the whole is covered with gauze, a little cotton wool and a bandage. It is not absolutely necessary that the wool or the gauze should be sterilised; for they are separated

sometimes after forty-eight hours. Its removal is quite painless. The lesion is then found covered with a thick purulent exudate, which often has a disagreeable odour. In the case of a recent burn (one, two or three days old), the eschars are begin-The lesion is cleansed, dried, ning to separate. and the same treatment with ambrine is applied

There are no contra-indications for this treatment in the case of burns; it is equally applicable to both the more superficial and the deeper ones. The length of treatment, of course, varies greatly with the case; but the author believes that it is always much shorter than with other treatments.

This treatment has the advantage of almost immediately calming the pain which is so frequent in cases of burns. This feature, the painlessness of its application, its simplicity and cheapness, and the rapidity and excellence of its reparative effects,

combine to render it highly advantageous.

Ambrine and similar paraffin preparations have many other therapeutic uses. Paraffin forms an excellent warm and compressive covering in cases of arthritis, sciatica, hydrarthrosis, and orchitis, having the advantage of being light and capable of rigid sterilisation. Paraffin alone, however, is not at the same time sufficiently resistant and sufficiently light to exercise the prolonged compression upon the affected part which is believed to be essential; and for that reason resin is added to it .-(Revista de Higiene y Sanidad Pecuarias)

THE CENTRAL VETERINARY SOCIETY. [NATIONAL V.M.A.—SOUTHERN BRANCH.]

An ordinary general meeting was held on Thursday, May 2, at 10 Red Lion Square, London, W.C., at 7 p.m. The chair was taken by the President, Prof. G. H. Wooldridge. The following Fellows signed the attendance book:—Messrs. N. Almond, R. C. Irving, H. King, W. S. King, G. H. Livesey, J. W. McIntosh, H. J. Parkin, W. Perryman, E. Lionel Stroud, W. Norman Thompson.

Minutes. On the motion of Mr. Almond, seconded by Mr. McIntosh, the minutes of the previous meeting were taken as read and confirmed.

The President asked the meeting to take item 6 on the agenda at the present stage of the proceedings.

Mr. LIVESEY said that he desired to consider the position of veterinary surgeons under the new Military Service Act. He knew something of the working of the Military Service enactments, as he had been a National Service representative for close upon three years, and understood the position in which men would be placed under the new Act. Members would probably be aware that when doctors became liable for service their cases were referred to a Medical Panel, which discussed the needs of the district, and found what number of doctors were required to carry on the ordinary practice of the place, while, on the recommendation of the Panel a certain number of fit doctors were called up for army sergauze should be sterilised; for they are separated from the lesion by the impermeable coating of ambrine.

The dressing is removed after twenty-four or speaker that certain districts had been pretty well drained of men. But there was a public necessity for veterinary surgeons to continue their work, seeing that the animals had become of infinitely greater value than before the war; if such animals were to be kept in good health a certain number of surgeons must be kept in civil practice. Those members who had been about the country would know that the working and the decisions of local tribunals had been by no means uniform; the tribunals had been very strict in some districts and lax in others. The right course, therefore, as it appeared to the speaker, was to approach the Minister of National Service without delay to see whether the cases of veter-inary surgeons could be referred to a central panel composed of veterinary surgeons, who would act as an advisory committee to the Ministry, and give their opinion as to the desirability of draining the district any further of its civil practitioners. If there were a surplus of civil practitioners, and men should be released for the army, it would then be right for the advisory committee or panel to consider the claims of men in the district, to see how far any one man should be made avaliable, according, of course, to his physical fitness. If it were considered proper that he should join the forces, it should be incumbent upon the committee to make such arrangements as they could for his work to be carried on in his absence; or at least the nucleus of his practice preserved, so that he might not have a total Such a course was carried out in trades, and the speaker saw no reason why it should not be adopted for the case of veterinary surgeons. The interests of grocers, butchers, etc., were protected by a definite committee, acting under the direction of the Local Government Board. But the committees could not deal with cases of veterinary surgeons, as they knew nothing about veterinary practice or the needs of animals in their district. If the professional interests were to be watched, this could best be done by a central panel set up, say, in

London, who could refer matters belonging to outlying to responsible men in the profession.

The Military Service Act was now in force, and the 16th May was the latest date for a man already medically examined to make any application to a tribunal. If a man who was liable to service had not been medically examined, he would shortly receive a calling-up notice to present himself for medical examination. He would then receive a notice calling him to the colours, fourteen days after medical examination. He must lodge an application for exemption with the Tribunal within seven days of receiving his calling up notice. It would therefore be seen that there was little chance for would therefore be seen that there was little chance for a man under 51 years of age (if physically fit) to make any application in time. The matter was therefore urgent, and as there was no body other than the Central Veterinary Society to deal with it—the most authoritative body short of the Royal College of Veterinary Surgeons, who could not be got together in time—it appeared to the speaker that it would be a good thing for the Society to frame a resultion to be submitted to for the Society to frame a resolution, to be submitted to the Ministry of National Service, so that the interests

the Ministry of National Service, so that the interests of veterinary surgeons might be protected.

Mr. Thompson enquired whether a veterinary surgeon had not the same right of appeal as others? It was pointed out that he had that right on personal grounds, and on occupational grounds. Further, if a veterinary surgeon were taken he would not be drafted into the ranks; he would immediately be given a commission in the A.V.S.

Prof. Wooldfide approved of Mr. Livesey's suggestion that action should be taken. He was unaware that the Royal College of Surgeons had moved in the matter at all, and time did not permit of enquiry. He thought representation to the Minister of National Service could very properly and reasonably be made by the Central very properly and reasonably be made by the Central Veterinary Society, and, pending the Minister's consideration of the matter, a delay in the operation of the Act should be requested.

Mr. Livesey said that the profession should not let

and wisdom, every effort should be made to keep the profession before the public, as one deserving of the

greatest consideration.

greatest consideration.

Mr. Livesey remarked—on the method of approaching the Minister—that, should the Minister of National Service desire to know what machinery was proposed, it might be suggested that the Council of the National Society should be the panel, and that they should delegate their powers to the different districts to the presidents and secretaries of the various branches throughout the country, who should give their opinion straight away. This would achieve decentralisation, machinery would be already set up, and use would be made of the National Society.

Mr. Almony also emphasised the importance of the

made of the National Society.

Mr. Almond also emphasised the importance of the subject. He understood that the British Medical Association or General Medical Council had charge of such matters in the case of surgeons. He favoured local Councils rather than a central council in London. In the various branches of the National Veterinary Society there were bodies capable of establishment as local panels. To deal with the matter effectively it was panels. To deal with the matter effectively it was essential that the members of the panel should have knowledge of the locality in which they acted. Unless special representatives were retained in London, local matters could not be dealt with. Therefore he advocated the appointment to such panels of the presidents and councils of the various local branches of the National Veterinary Medical Association.

wetermary medical Association.

Mr. IRVING intimated that in the case of the medical profession local panels of doctors were appointed.

Mr. McINTOSH thought the words "if there is a surplus of civilian veterinary surgeons" should be omitted; the question should be left open.

Mr. Thompson suggested the substitution of "local"

centra

General discussion followed as to the form which the resolution should take. The President suggested that Mr. Almond's recommendation relative to the National Veterinary Association should from a relative to the National Veterinary Association should form a rider to the reso-lution. Finally, Mr. McIntosh proposed, and Mr. Irving seconded the proposition that the following reso-lution be submitted to the Minister of National

"That the Central Veterinary Society is of opinion "That the Central Veterinary Society is of opinion the case of veterinary surgeons of military age should be referred to a central panel, composed of veterinary surgeons, who would act as an advisory committee under the Ministry, as in the case of medical practitioners, and their decision should be accepted by the tribunals. With regard to the panel, the Society would suggest the President and Council of the Royal College of Veterinary Surgeons, or, alternatively, the National Veterinary Medical Association of Great Britain and Ireland, which possesses a Council and Local Committees throughout the Kingdom, and would probably afford excellent machinery for the purpose."

This resolution on heing put to the Meeting was

This resolution, on being put to the Meeting, was carried unanimously, to which, also with the approval of the meeting, the following was to be added:—

"Further, that a copy of this resolution be forwarded to the Minister of National Service and to the President of the Royal College of Veterinary Surgeons."

Minutes. The PRESIDENT pointed out that there were one or two matters he desired to bring forward in were one or two matters he desired to bring forward in connection with the minutes, but he would first submit the apologies of the Secretary, Mr. MacCormack, who, on account of the unfortunate limb, was unable to be present. Mr. MacCormack could get about a little during the early part of the day, but could not move about during the evening. This was the second occasion only upon which the Secretary had been absent from the meetings during his years of office.

Mr. McIntosh felt that members should not pass over Mr. MacCormack's letter without an expression of sincere regret at the circumstances which prevented his sincere regret at the circumstances which prevented his attendance. Mr. MacCormack had made every effort to be present for a long time past under difficulties. On the last occasion that the speaker had seen Mr. MacCormack he was very lame and evidently suffering a great deal. All would join him in an expression of deep sympathy with the Secretary, and the hope that he would soon be restored to a normal condition.

The President then referred to the instructions he had received at the last meeting to draw up a synopsis of the discussion which took place, and to forward it to Mr. Leslie Scott for his guidance in connection with the proposed deputation to the Home Secretary. The synopsis, which had taken considerable time to prepare, was as follows:

THE CENTRAL VETERINARY SOCIETY. 11th March, 1918.

Re The present unsatisfactory condition of draft horses.

Dear Sir,—The above subject was very thoroughly discussed at the last two meetings of the Central Veterinary Society in January and March. The Society is glad to hear that it is your intention, in association with other Members of Parliament, to discuss the matter at an early date with the Home Secretary, and is anxious to afford you every assistance which lies in its

The present condition of draft horses both in London and the provinces is causing very grave concern amongst horse owners and members of the veterinary profession, should be and is at the same time attracting the attention of the

public, who are only approaching the question from the humanitarian aspect.

The conditions to which we would particularly draw your attention are:

Firstly: the very general loss of condition, wasting and debility of horses, resulting in their inability to perform a reasonable amount of work for horses of their type, and the greatly increased mortality arising there-

Secondly: the serious loss of transport resulting from

this depreciation in horse-flesh, and

Thirdly: the humanitarian aspect, namely, the compelling horses to perform duties such as, in their present condition, they may be totally unfit to carry out.

The Central Veterinary Society would like to emphasise, firstly, the principal causes responsible for the unfortunate state of affairs, and, secondly, to suggest, where possible means whereby the conditions may be prevented, or ameliorated.

The principal factors responsible are the following:

Food, which is defective both in quantity and quality.
(b) The scarcity of competent drivers of horses and

the substitution of inexperienced drivers and boys.

(c) Over-work, which includes over-loading and too long journeys (due largely to the great shortage of petrol), particularly in horses being provided with a diet inferior to that used formerly.

(d) The pace at which horses are driven due to (b), and in view of (a) and accentuated by the present un-

satisfactory state of the roads.

(e) The increase in the average age of the horses on the London streets, due to the fact that so many of the younger horses are now employed for military purposes.

It is perhaps advisable here to offer a few explanatory

remarks on these factors.

With regard to (a) food, which, as stated above, is often defective both in quantity and quality, the quantity of food for horses permitted by the Horse Food Controller is sufficient for all ordinary purposes. Unfortunately, however, some owners make the re-strictions an excuse for still further reducing the horse ration. It is difficult to see how this can be controlled. At the present time, there is in existence power of entry for the examination of stores and books, but this is with the object of seeing that horses are not receiving more than the prescribed ration; not with the object of seeing that they have sufficient.

A still more important aspect, however, is that referring to the owners of small study of horses who frequently purchase their horse food in the form of mixtures. There appears to be no regulation as to the composition of these mixtures beyond the fact that hay chaff shall contain at least 20 % of straw chaff. So far as we are aware, there are no powers to compel the declaration of the corn content of the mixtures and this

should be provided for.

We submit for your inspection a sample of so-called "mixture" in which it is difficult to find any trace of corn, but for which the extortionate price of 16/- per cwt. (£16 per ton) was charged. This is a fair price for a really good mixture, and a small owner paying it should reasonably expect an efficient food, and that his horse should do well on it. Instead of this it is practically a starvation diet for a working horse, and the owner cannot justly be held responsible.

This is apparently one form of profiteering which

should be checked.

In addition to the low proportion of corn in these mixtures, it may also be pointed out that bad and mouldy hay which could not otherwise be disposed of, is frequently incorporated.

The general supply of hay to London is a serious matter at present; much hay which is being brought to the Metropolis is very inferior and often mouldy when despatched. In addition to this, the transport leaves much to be desired. It is sometimes impossible to obtain supplies; and delays on rail are frequently responsible for hay previously of good quality being rendered unfit for food by exposure to weather. We have recently approached the Horse Food Controller in this connection, and he informs us that hay has now been placed on the food priority list. It is hoped that delay will thus largely be obviated and that conditions in this

will, accordingly, be improved.

The effect of this improper food is such as to cause great malnutrition with results which are practically incalculable. It produces very great debility, as a result of which many horses have completely lost control of their hind quarters and have had to be destroyed; it is also responsible for an enormous increase in the incidence of colic, which in certain studs where statistics are available can be shown to have increased the mortality by quite 200%. The mortality from all causes is asserted to have increased at least 50%. The total loss of transport thus involved is of very great national

importance.

As regards (b), (c) and (d), (that is, bad driving, overworking, and too great pace), these matters are very closely associated, and may be grouped under the heading of general bad horsemanship. In the opinion of the Central Veterinary Society the most important item is that of pace. The matter of speed is of the greatest importance, because the energy expended increases very rapidly with the increase of pace. Consequently, horses can regularly perform work at a walking pace with comfort, at the same time maintaining good bodily condition, which they would be quite unable to do at a trotting pace. The discomfort, distress and wear and tear are considerably increased by the general unsatisfactory condition of the roads.

Palliative measures. In the present circumstances, it is obviously impossible to suggest measures whereby this unfortunate state of affairs can be completely remedied. On the other hand, we are of opinion that the conditions may be considerably improved, and to

that end we offer the following suggestions: (1) A general warning should be issued from the Home Office to owners and drivers of horses, drawing their attention to the bad condition of horses generally, largely due to over-loading, over-working, and over-driving, and intimating that a more rigorous inspection will be instituted, to be followed by prosecution in proved cases of active or passive cruelty. Owners should be informed that in the present circumstances of reduced rations, load must be cut down, and draught horses must not be used for trotting purposes. the pace that kills."

In this connection, we are of opinion that sufficient powers already exist, if exercised with vigour and particularly with discretion, which has so often not been

the case in the past.

The Central Veterinary Society would suggest an alteration in the method of procuring veterinary evidence for the prosecution in these and other cruelty cases. The system of having one Veterinary Surgeon attached to a Police Court appears to be an injudicious one, and the Society would suggest, in order to avoid possible local influence and past discontent, that the Police should be instructed in all cases where practicable, to call in a Veterinary Surgeon nearest, or most convenient to the point where a horse may be stopped on suspicion.
(2) With regard to the food question, it is hoped that

the improved transport of forage will go far to remedy the defects. Great improvement, however, would be

effected if the Army Forage Authorities could be per suaded to release a better proportion of good hay for civilian use. Moreover, it is desirable that there should civilian use. Moreover, it is desirable that there should be a more definite composition of horse feeding mixtures prescribed, and that forage merchants should be compelled to disclose, and to display prominently a statement of the corn content of any mixture sold by them Inspection of forage merchants' stocks might also be instituted, in order to prevent the sale for horse foods of materials totally unfit for that purpose.

(3) As regards (e), advanced age, little can be done beyond impressing owners and drivers with the fact that aged horses cannot and must not be expected to perform the same tasks either as regards load or pace as horses in the prime of life, and that horses obviously past work must be withdrawn from the streets. If used with discretion, aged horses may be maintained in a serviceable condition for a considerable time.

It has also been suggested that drivers of horses

It has also been suggested that drivers of horses should be licensed. In the opinion of the Central Veterinary Society, however, this is impracticable in the present state of the shortage of labour. Undoubtedly proper delivers would fail to extist any advantation. the present state of the shortage of labour. Undoubtedly many drivers would fail to satisfy any adequate test to which they would be submitted by the Licensing Authority, and temporary men, some of whom are quite good drivers, would be debarred from carrying out these duties, 'owing 'to being unlicensed; in that case, the transport difficulties would only be intensified.

We put this matter before you as Veterinary Surgeons and as members of the community from the national

and as members of the community, from the national standpoint, as well as from the humanitarian point of view, as we realise the very great necessity for husbanding our horse resources in the present difficult circum-

Needless to add, we shall be pleased at all times to give any assistance we possibly can to help in your laudable efforts to improve the conditions and the lot of the present day working horse.—We are, dear Sir, Yours faithfully, (Signed) G. H. Wooldbridge, President.

HUGH A. MACCORMACK, Hon. Sec.

Dear Mr. Leslie Scott-We were very sorry that you

Dear Mr. Leslie Scott—We were very sorry that you were unable to attend our meeting on Thursday last, as the discussion would probably have been of considerable interest and assistance. No doubt Mr. Byrne will have reported to you in due course what took place. On behalf of the Central Veterinary Society, I am enclosing a summary of the views of the Fellows of the Society as indicated during the discussion, and I am requested to express the hope that it will be of assistance in your efforts to remedy what otherwise must become a serious menace. My only fear is that the summary may be too long. summary may be too long.

If I can assist in any other way, I shall be only too happy to do so.—Yours faithfully,

(Signed) G. H. Wooldridge,
Leslie Scott, Esq., K.C., M.P.,
20 Egerton Terrace, S.W.

Under date the 11th March, 1918, he had received a

Dear Prof. Wooldridge,—Mr. Leslie Scott is most grateful for the excellent summary of the position, duly received this morning. He thanks you most sincerely for it. He is having copies circulated to the Members whom he is meeting this evening, and who will wait on Sir George Cave on Wednesday next.

I will let you know in due course what the result of his action is.—Yours very truly,

(Signed) Private Secretary. On March 14th, he had received from Mr. J. Bryne, the Secretary to Mr. Leslie Scott, the following communication:—

Dear Prof. Wooldridge,—The deputation to the Home Secretary was received last evening and everything went off well. A draft report of the proceedings is being prepared, and I will send you a copy as soon as ready. Meanwhile, may I direct your attention to the Horse and Poultry Mixtures Order (1173 of Nov., 1917), which lays down that horse mixture shall not contain more than two-thirds its weight of chaff? The sample submitted would certainly not pass that test.

I went to the Food Ministry this morning about it, and they told me that any person aggrieved should

and they told me that any person aggrieved should complain to the Local Food Committee, and, or as well, of Food, Police Chambers, S.W. 1.

Perhaps you will let the horse-owner who sent in that bad sample know of this — Yours sincerely,

(Signed) J. BYRNE. Private Secretary.

Subsequently he had been in receipt of a report in connection with the Wastage of Horse Transport Deputation to the Home Secretary.

WASTAGE OF HORSE TRANSPORT.—DEPUTATION TO THE HOME SECRETARY.

Wastage of Horse Transport.—Deputation to To the Home Secretary.

The Home Secretary has received a deputation of Members of Parliament acting on behalf of themselves and a number of other members who are anxious to effect an improvement in the deplorable state of so large a proportion of the horses at work in the streets of London and our other great towns at the present time. The Home Secretary was accompanied by the Chief Commissioner of Police and Mr. R. H. Selbie, the Controller of Horse Transport at the Board of Trade.

Mr. Leslie Scott, on behalf of the deputation, which consisted of Sir Frederick Banbury, Mr. Shirley Benn, Mr. J. G. Butcher, Mr. Burdett-Coutts and Sir George Greenwood, presented a detailed memorial drawn up by the Central Veterinary Society (the London Branch of the National Veterinary Association) upon the very serious conditions at present existing, their causes, and certain suggested remedies; and speaking on behalf both of the Veterinary Surgeons, the Royal Society for Prevention of Cruelty to Animals, the National Equine Defence League, and of the Deputation, said that it was not only a question of much cruelty to countless horses but a matter of national interest in connection with the war. Petrol difficulties made it critically important to husband our resources in horse transport. In fact they were being wasted at an alarming rate. The depletion by the war of the normal urban supply of good horses had left a large residue of horses and ponies too small or too old for the work required of them. The forage that they were receiving was often both bad and insufficient. The place of experienced drivers had been taken by boys. Horses were worked too many hours, with too heavy loads, and at too great a pace; and in addition the road surface was often bad. The result was that mortality had gone up greatly, and our stock of horses was being fast used up, with much suffering to the animal, and the grave prospect of a serious shortage reshould be given to the police to stop all horses unfi

next year.

The deputation suggested:—(1) That definite orders should be given to the police to stop all horses unfit, from whatever cause—whether size or condition—for their work; or over-loaded or over-driven; and to have particular regard to boy drivers, and the matter of pace.

(2) That the Home Secretary should acquaint the Royal College of Veterinary Surgeons with the orders and ask them to give their help with horse owners. (3) That

1

steps should be taken to ensure a better quality of hay being supplied for urban purposes, and its delivery in better condition. (4) That the Inspectors of the Food Ministry whose duty it was to see that horses did not get more than the rations allowed under the Orders of the Ministry should be directed also, so far as possible, to see that horses did not get less.

Sir F. Banbury urged that the police should be told

that it was their duty to be just as zealous as before the war; and that the present difficulties were no reason for any extra leniency or indulgence to drivers and owners,

but the reverse.

Sir Edward Henry said that in the Metropolitan area in the last eight months the police had already prosecuted in 1700 cases for cruelty to horses, and that they were most anxious to do everything possible. He would sively on a straw diet. consider the question of issuing further instructions to the Metropolitan Police.

Mr. Selbie drew attention to the Horse and Poultry Mixtures Order, No. 1173, 1917, para. 1 (IV), imposing certain limits as to the minimum proportion of oats or other nutritive food in forage sold as a "mixture" ("not more than two-thirds by weight of chaff"

The deputation asked whether the Food Ministry had

taken any steps to enforce the Order.

Mr. Selbie further said that he hoped to come to a satisfactory arrangement with the Military authorities, who had control of the whole of the hay of the country, to make satisfactory supplies available for the towns.

The Home Secretary, in thanking the deputation, expressed strong sympathy with their views and said he would do everything in his power to assist so far as

police action was concerned.

Mr. McIntosh proffered the thanks of members to the President for the excellent summary he had prepared. The letter from Mr. Scott was a very pleasant one, and all would hope that good would come of the matter. From the present outlook, he rather feared that the conditions in regard to feeding seemed likely to be worse. There was a proposal to reduce the grain ration by 2lb. The inclusion of grains and bran-not included in the previous order—effected a reduction of

authorities had not realised.

Mr. IRVING had a large experience of the Rationing Order. The rations had been cut down to the lowest possible quantities, as there was such a general shortage of forage in the country. The Army authorities who have control of the hay estimate that at the present rate of consumption there is about enough hay to last until the 15th May. The only oats in the market now were what had been left over for seed; and the prospects of importing oats and maize are most uncertain. It was suggested by the Government to ration hay, but nothing definite had been settled. Last year, 1917, the hay crop was very light—about 15 cwt. to the acre; whereas in 1916 it had been about two tons to the acre. That accounted for the shortage.

It was further proposed that it should be made illegal to use straw for bedding, as straw was the only

substitute available for hay.

The President remarked that the energy used up in the digestion of straw was greater than the energy which straw supplied, calculated as a food, and that straw would only serve to produce the mechanical distension of the alimentary tract necessary for the digestion of the more concentrated foods. That fact should not be lost sight of in substituting straw for hay in a diet already reduced to its lowest possible nutritive value consistent with the maintenance of life and working

great deal of straw was used and with the best results; that straw had not the detrimental effect generally thought; that some animals were now getting nothing but straw.

The President: But what is their present condition? Mr. IRVING observed that straw was useful to produce bulk if foods that would produce nourishment were available; it was not proposed to substitute straw as a

food.

Mr. Almond questioned that the energy consumed in the digestion of oat-straw, especially if cut early, as is now the practice, exceeded its proteid value, but Prof. Wooldridge contended that not only was it a theoretical but a practical fact; animals could be fed largely on straw with concentrated foods added, but not exclu-

Correspondence. Mr. Stroud stated that two letters had been received, one from Mr. J. Willett.

"Will you please convey to the President and Fellows of the Central Veterinary Society my deep appreciation of their kindness in sending a wreath on the occasion of my dear wife's funeral."

One from Prof. J. J. O'Connor, M.R.c.v.s., of the Veterinary Medical Association of Ireland, Dublin, soliciting the favour of the Association's support of the candidature of Mr. P. J. Howard at the forthcoming election for Council of the Royal College of Veterinary Surgeons.

Mr. Stroud stated that he had been informed by the Secretary that the Society had never supported any

particular candidate in this way.

Mr. McIntosh, in moving that the Society take no action, wished at the same time to say that this was not a personal matter, as he knew Mr. Howard to be a very worthy gentleman, and he had all along supported his candidature, but he was strongly opposed to the Society agreeing to support -- as a Society-the candidature of any particular member of the profession; it was a matter which should be left entirely to the individual members, who should exercise their own judgment with an open mind.

The President observed that often the members of a included in the previous order—effected a reduction of considerably more than 2 lb., which, apparently, the aspirants to the Council. That did not apply in the case of Mr. Howard, because he was known to members either personally or by repute. Even without official acknowledgement on the part of the Society, Mr. Howard would be certain of a large majority of the votes of members. Another aspect of the case called for consideration. An excellent prospective member of Council might not be elected at all unless his worth were discussed at the meetings—merits and demerits considered. Whatever was done could not bind any man to vote for a particular candidate. Individual members filled in their own forms; the vote was not collective. He agreed with Mr. McIntosh in thinking that the Society should not depart from its previous procedure. The letter had been acknowledged, and no further reply was needed.

The President next referred to the death of Mrs. Willett, and proposed a vote of condolence with Mr. Willett on the loss of his wife. As soon as he had heard of the sad incident, he communicated with Mr. Willett expressing the regrets of the Society and his own personal regrets. He added that he regarded it as due to Mr. Willett, and to the respect that Fellows entertained for Mrs. Willett, that a wreath should be sent as a mark of the Society's feeling in the matter. That had been done on the Society's behalf. Of the ladies of the Society—by which he meant the wives of the various In the discussion on that point it was stated that a to the toast of "The Ladies," and then, as always, she had done everything possible to make the social gatherof the Society a success

ings of the Society a success.

The proposal was seconded by Mr. Stroud and unanimously carried.

The name of Mr. F. H. Stainton, M.R.C.v.s., who had been proposed by the President, supported by Mr. MacCormack, was then put forward as a candidate for Fellowship of the Society. A ballot of the Fellows present was taken, and Mr. Stainton was found to have been cleated upgaintenably. been elected unanimously.

MORBID SPECIMEN.

The President, in introducing a morbid specimen, read the letter addressed to him. He remarked that it was, in opinion, the calcified wall of a sebacious cyst or comedone. The history given in the letter afforded a clue, and it appeared to him rather remarkable that it should have been repeated as a pairwal. should have been regarded as an animal.

ACNE AND IMPETIGO.

It had been the intention, according to item 5 of the agenda, of the President to introduce a discussion on this subject, but the hour being late, consideration was given to the advisability of deferring the matter.

was given to the advisability of deferring the matter. Opinion was divided.

Mr. Stroup proposed, and Mr. Irving seconded, that the paper be read and discussed at the next meeting of the Society. To this, the President having assented, the meeting agreed. The paper is accordingly hold over until the July meeting; and the proceedings terminated.

HUGH A. MACCORMACK, Hon. Sec.

VETERINARY SURGEONS ACT FOR S. AFRICA.

To consolidate extend and amend the laws in force in the Union relating to Veterinary Surgeons and as to other matters connected therewith or relating thereto.

(To be introduced by the Minister of Agriculture). (Concluded from p. 479.)

Removal of name from and restoration to Register. 17. (1) The council may erase from the register the name of any person who:—(a) is no longer domiciled in South Africa, or (b) has failed within a period of six months from the date of an enquiry sent by the register. . . to satisfy the council that he is still carrying on his profession or calling, or (c) has requested that his name be removed from the register or has notified that he has ceased to practice, in either of which cases such person may be required to lodge a solemn declaration that no disciplinary or criminal proceedings are being or are likely to be taken against him.

No person whose name has been erased in terms of this sub-section shall be entitled to practice. Removal of name from and restoration to Reg-

(2) The council may erase from the register the name (2) The council may erase from the register the name of any person whose name, before or after the commencement of this Act, has been removed from the roll atturbing of any university, college, society, or other body from which that person received the degree, diploma or certificate in respect of the holding whereof he was registered, and any registration certificate issued to such person shall be deemed to be cancelled as from the date of such erasure.

Appeal to the Court. 18. (1) After notice to the council an application may be made to any provincial or Local Division of the Supreme Court by a person who is aggrieved, by:—(a) the refusal of the council to register him in terms of this Chapter; or (b) the erasure from the register of his name, or of any degree, diploma or certificate, or other particular

Register to be published when required by Council. 19. The register to be kept at the office of the council and the register may from time to time under the authority of the council cause copies of such register to be printed, publ shed and sold.

register to be printed, publ shed and sold.

Register to be conclusive evidence of right to practise or carry on calling. 20. A copy of the last published issue of the register purporting to be printed and published under the authority of the council shall be evidence in all proceedings, civil or criminal, of the right of any person whose name appears therein to carry on in terms of this Act the profession or calling of a Veterinary Surgeon, and the absence of the name of any person from such copy shall be evidence, until the contrary be made to appear, that such person is not registered according to the provisions of this Act:

Provided that in the case of any person whose name has been added to the register after the date of the last published issue thereof a certified copy, under the hand of the registrar, shall be evidence that such person is Provided further that, in the case of a person whose

registered:

Provided further that, in the case of a person whose name has been erased from the register since the date of the last published issue thereof, a certificate under the hand of the registrar shall be evidence that such person is not registrated. is not registered.

what degrees, diplomas, and certificates will entitle to registration. 22. (1) The Governor-General may from time to time after considering any recommendation of the council, prescribe by regulation the several degrees, diplomas, and certificates which will enable the holders thereof to obtain registration under this Act as Veterinary Surgeons. Provided that, save as is provided by sub-sections 2 and 3 and the next succeeding section no degree, diploma, or certificate of a this Act as veterinary Surgeons. Provided that, save as is provided by sub-sections 2 and 3 and the next succeeding section no degree, diploma, or certificate of a university, veterinary school, or any other examining authority outside the Union shall be prescribed under this section or accepted as a qualification for registration of the holder as a veterinary surgeon, unless:—
(a) such degree, diploma or certificate entitles the holder to practise as a Veterinary Surgeon in the country or state in which such university, school, or examining authority is situate; (b) by the laws of that country or state persons holding degrees or qualifications granted in the Union and entitling them to practice as Veterinary Surgeons therein are admitted without further examination to practice in that country, or state; and (c) the curriculum and standard of examination required for such degree, diploma or certificate are not lower than are prescribed for the professional education and examination of Veterinary Surgeons within the

Union.

22. (2) The provisions of paragraph (b) of subsection (1) shall not apply to the prescribed degree, diploma or certificate granted by a University, veterinary school or other examining authority in the United Kingdom nor to those similarly granted in any British Possession, unless and until on the representations of the Council the Governor-General is satisfied that the authority charged with the admission of veterinary surgeons in that British Possession has refused to grant reciprocal privileges of practice to persons who have qualified after examination in the Union as veterinary surgeons.

prescribed degree, diploma or certificate granted by any University or veterinary school, or other examining body or statutory authority in a British Possession, and entitling him to practise in that possession as a veterinary surgeon may, if he makes application to the Council in accordance with section 24 within one month after the commencement of this Act be registered as a veterinary surgeon under this Act.

Exception in favour of British Subjects born or domiciled in the Union. 23. (1) Any British subjects who (a) having been born in any part of South Africa included within the Union; or (b) being domiciled in the Union when he commences his professional studies and having proceeded therefrom for the purpose of prosecuting those studies and having remained during the prosecution thereof so domiciled, has obtained a degree, diploma, or certificate prescribed under subsection (2) of this section, may be registered as a veterinary surgeon.

(2) The Governor-General may from time to time, after considering any recommendation of the Council, prescribe by regulation the degrees, diplomas, or certificates of a University, veterinary school, or other examining authority, outside the Union, which, when singly or conjointly by any person described in subsection (1) of this section, shall entitle the holder to be registered as a veterinary surgeon.

Provided that (a) such degrees, diplomas, or certificates have been granted after examination; (b) such degrees, diplomas, or certifiates would, so far as professional qualifications are concerned, entitle the holder to practise as a veterinary surgeon, in the country, or State. in which the university, school, or examining authority is situate; (c) the curriculum of the university, school, or examining authority and the standard of examinations required for such degrees, diplomas or certificates are not lower than are prescribed for the professional education of veterinary surgeons within the Union.

Application for Registration. 24. (1) No person, not being already registered in accordance with this Act shall be entitled to practise within the Union as a veterinary surgeon, unless and until he has obtained a registration certificate signed by the Registrar.

(4) If the registrar is not satisfied that the degree, diploma or certificate on facts submitted in support of the application or in accordance with the requirements of this Act he shall, if required by the applicant, submit the application for decision to the council.

Council may examine and grant certificates to non-qualified persons. 25. The council may grant a certificate of competency (which shall entitle the holder to practise subject to the provisions of this Act or any amendment thereof as a certificated veterinary surgeon) to any person over the age of twenty-one years who at the date of taking effect of this Act shall have been engaged in bona-fide practice as a veterinary surgeon in the Union for a period of not less than three years provided that he satisfies the council as to his good character and identity, and passes such examination as the council may prescribe.

Council to consult Universities as to Veterinary education in the Union. 26. The Governor-Ceneral may from time to time, after considering any recommendation of the council, prescribe by regulation the minimum curricula and standard of veterinary education and examinations which shall be maintained at every university or constituent portion thereof in the Union at which a veterinary faculty is or becomes lawfully established in order to secure recognition under this Act, and such regulation shall provide for the presence at and report upon any such examinations by a person appointed by the council.

Registration of additional qualifications.

27. (1) Every person who desires to register a degree, diploma or certificate other than the degree, diploma or certificate in respect of which he has in the first instance been registered, may, upon payment of a fee of £1 and subject to sub-section (2) have such other degree, diploma or certificate entered in the register.

(2) The degrees, diplomas, or certificates registrable under this section shall be such as the council may,

from time to time prescribe.

CHAP. III.—OFFENCES BY UNREGISTERED PERSONS.

Penalties. 28. Any person not being registered as a Veterinary Surgeon:—(a) Shall not be entitled to recover in any Court any fee or charge for performing any veterinary operation, or for giving any veterinary attendance or advice, or for acting in any manner as a veterinary surgeon or veterinary practitioner, or for practising veterinary medicine or surgery or any branch thereof, or for holding himself out as pursuing the calling of a veterinary surgeon, or professing to diagnose disease in or injuries to animals and thereafter prescribing or treating the same; (b) pretends to be or takes the title of veterinary surgeon or veterinary practitioner, or any name, title, etc., shall be liable on conviction for each such offence to a fine not exceeding fifty pounds or, in default of payment, to imprisonment with or without hard labour for a period not exceeding three months. In respect of every conviction after the second the pun-ishment shall be a fine not less than fifty pounds nor more than one hundred pounds or, in default of payment, imprisonment with or without hard labour for a period not exceeding six months, or such imprisonment without the option of a fine, or both such fine and such imprisonment.

CHAP. IV.—DISCIPLINARY POWERS OF THE COUNCIL.

29. The council shall have the power to enquire into any complaint or charge of improper, disgraceful, or infamous conduct in a professional respect against any person registered under this Act and on conviction to impose the penalties provided for by this Act.

30. Every person registered under this Act who has been found after enquiry held by the council to have been guilty of improper, disgraceful, or infamous conduct in a professional respect shall be liable to one or other of the following penalties:—(a) Reprimand and caution under the hand of the President; or (b) suspension for a specified period from practising . . .; or (c) the erasure of his name from the register and disqualification from practising or performing acts appertaining to his profession or calling:

taining to his profession or calling;

Provided that he shall be afforded an opportunity by himself or his counsel or attorney, of answering the charge and of being heard in his defence. That effect shall not be given to any penalty mentioned in paragraph (b) or (c) unless and until the Minister has confirmed the finding of the council. That the confirmation by the Minister of any such finding of the council shall not be withheld unless and until he has consulted the President of the council; and the Minister may remit the case to the council for reconsideration, and he

may reduce the penalty.

(2) Every enquiry held under this section shall be conducted in accordance with regulations, made by the Governor-General specifying:—(a) the manner in which complaints or charges brought against a registered person shall be lodged: (b) the method of inforcing the attendance at an enquiry of an accused person and of witnesses . . . the production of documents; (c) the penalties for refusing to attend when summoned, etc.

(4) An application may be made to any provincial or local division of the Supreme Court by any person aggrieved at the finding of or penalty imposed by the council ... but the proceedings of the council shall not be set aside by reason only of any informality, unless the Court is satisfied that substantial justice has not been done. done.

32. (2) Whenever in the course of any proceedings before any court of law it appears to the presiding judge or magistrate that there is prima facie evidence of improper or disgraceful or infamous conduct in a professional respect on the part of a registered person, such judge or magistrate may direct that a copy of the record in such proceedings, or such portion thereof as is material to the issue, shall be transmitted to the council.

council.

(3) In the case of charges of material evidence in support whereof is documentary, such as charges arising out of the records of criminal or civil courts of law, or printed or written matter of an advertising nature or in such other case as the council may think fit, the registrar acting as pro forma complainant may institute proceedings under this Chapter.

33. (2) Save as is provided in this Act, no legal proceedings, civil or criminal, shall lie against the courcil or any member or officer thereof in respect of any Act or duty performed in accordance with this Chapter.

34. The Council may, according as the matter is one concerning the function of the council from time to time prescribe the acts or omissions which shall be regarded as offences falling within the scope of this Chapter: Provided that failure to prescribe as or the omission of any aforesaid particular offence from the list of those prescribed shall not be deemed to limit the powers of the council to hold an enquiry, and to impose under this Chapter any penalty in respect thereof.

CHAP. 5.—GENERAL AND MISCELLANEOUS.

Veterinary Surgeons may dispense medicines on Veterinary Surgeons may dispense medicines on payment of licence filed by law. 35. Every Veterinary Surgeon shall be entitled to compound or dispense medicines prescribed by himself or by any other Veterinary Surgeon with whom he is in partnership or with whom he is associated as principal or assistant or locum tenens provided that he shall not be entitled to keep an over the property. open shop or pharmacy.

36. Exemptions:—(a) Any Veterinary Officer of His Majesty's Military Forces stationed within the Union (b) any person not permanently resident in the Union, who is engaged solely in Veterinary Research

False representations inducing registration or false entries in register, or impersonation. 37. Any person who:— . . (c), (d), falsifies or forges documents. (e) impersonates any person registered in terms of this Act, shall be guilly of an offence and shall be liable on conviction to imprisonment with hard labour for a period not exceeding two years.

Penalties not otherwise provided. 38. . Penalties not otherwise provided. 56. . . . shall be liable on conviction to a fine not exceeding fifty pounds or, in default of payment, to imprisonment with r without hard labour for a period not exceeding three months.

39. (2) No person, other than a person registered under this Act and holding the necessary qualification or qualifications, shall be entitled to hold any appointment as a Veterinary Surgeon, Veterinary Officer or Veterinary Officer of Health to any Government Department Maniginality or other public hold or any other ment, Municipality, or other public body or any other appointment tenable by reason of possession of a qualification registrable under this Act :

40. The council may be required by the Minister to advise the Government on any Veterinary matter and shall communicate to the Minister information acquired in the course of its duties on matters of public import.

Rules or Orders. 41. (1) All regulations required to be prescribed under this Act may unless the context otherwise requires be prescribed by the Governor-Gen-eral who may also from time to time prescribe any further regulation for the better carrying out of the objects and purposes of this Act.

and purposes of this Act.

(2) The council may from time to time make, alter or rescind rules or orders not inconsistent with this Act prescribing:—(a) the conduct of the business and the procedure at meetings of the council and the committees of the council, and the manner in which minutes of such proceedings shall be kept; (b) the manner in which contracts shall be executed on behalf of the council and in which the accounts of the council and proceedings sain to executed on behalf of the council and in which the accounts of the council shall be kept; (c) the fees and allowances to be paid to members when engaged on the service of the council; (d) the duties of the registrar and other officers; (e) the fees to be charged (other than such as are fixed in this Act) for any matter in respect of which a fee under this Act is chargeable; (f) the form of the register and all certificates issuable under this Act at the manner in which alterations may be effected in such register; (g) for forms to be filled in and the documents submitted by applicants for registration or for restoration to the register; (h) the several degrees, diplomas and certificates which may be registered as additional qualications; (i) the fees payable by candidates, the appointment and remuneration of examiners, etc.

(3) No such rule or order and no rule or order relating to any matter which the council may prescribe or any alteration or rescission thereof shallbe of force and effect until approved by the Minister and published in the Gazette.

the Gazette.

the Gazette.

(4) The rules or orders may provide penalties for any contravention thereof or failure to comply therewith, not exceeding a fine of £10 or, in default of payment, imprisonment with or without hard labour for a period not exceeding one month.

44. Nothing in this Act contained shall be construed 44. Nothing in this Act contained shall be construed as prejudicing or terminating the right of a veterinary surgeon registered under any scheduled law to continue to do anything which, but for the passing of this Act, he would have been entitled to do, so long as such person is registered under this Act and continues to reside and practise in the province in which at the commencement of this Act he was resident and in practise. practise.

SECOND SCHEDULE.

Laws Repealed.

NATAL. No. 30, The Dentists Act, 1896, in so far as it applies to Veterinary Surgeons. No. 35, The Medical and Pharmacy Act, 1896, in so far as it applies to Veterinary Surgeons. No. 21, Act to amend the Medical and Pharmacy Act, 1896, etc., in so far as it applies to Veterinary Surgeons.

The Chief Constable of Ayrshire reports that cases of sheep worrying by dogs during the past year in the county numbered 38, affecting 118 sheep. Of the sheep attacked, 71 were worried to death, while 47 were more or less injured. In 16 cases the dogs were discovered, and in 14 cases were destroyed. In 11 of the cases in which the dogs were traced, the owners of the dogs paid compensation to the agreed amount of £72 8s. Of the dogs traced, 10 were collies and 11 terriers.

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SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:-

	Malcolm Bray, Dorking	£1	1	0	
	James Broad, Paddington	1	1	0	
	S. S. Broad.	1	1	0	
	Morris G. Byerley, Greenwich	1	1	0	
	R. W. Carless, Stafford	1	1	0	
	Henry Gray, London	1	1	0	
	William Hill, Capt. A.V.C.	1	1	0	
	J. E. Holroyd, Manchester	1	1	0	
	James McLaren, Liverpool (1916-17-18)	3	3	0	
	Peter Manuel, Crewe (1917, 1918)	2	2	0	
	E. E. Martin, C.M.G., Col. A.V.S.	1	1	0	
	Harold Morphew, Loxwood	1	1	0	
	John Pollard, Capt. A.v.c.	1	1	0	
	Prime & Sons, Upper Norwood	1	1	0	
	T. O. Richardson, Tarporley	1	1	0	
	W. S. Stephens, Capt. A.v.c.	1	1	0	
14	W. H. Wilkinson, Dublin	1	1	0	
	Previously acknowledged	740	11	5	

£761 11 5

ARMY VETERINARY SERVICE

War Office, May 25.

The following dispatch has been received by the Secretary of State for War:—

General Headquarters, April 7, 1918. My Lord,—I have the honour to submit a list of names of those officers serving, or who have served under my command during the period September 25, 1917, to midnight, February 24-25, 1918, whose distinguished and gallant services and devotion to duty I consider deserving of special mention.

I have the honour to be, my Lord,

Your obedient Servant, D. HAIG, Commander-in-Chief,

The British Armies in France.

The British Armies in France.

Temp. Capt. W. Anderson; Temp. Capt. A. Barr; Temp. Capt. F. W. Coombs; Temp. Capt. W. A. Dickinson; Qrmr. and Hon. Capt. E. Epps; Temp. Capt. W. E. Footner, M.C.; Capt. (actg. Maj.) R. A. Gooderidge; Capt. W. Hay; Temp. Capt. J. Hill; Temp. Maj. F. T. G. Hobday; Temp. Capt. J. Hill; Temp. Maj. F. T. G. Hobday; Temp. Capt. C. K. Lomas; Temp. Capt. T. A. McClintock; Temp. Capt. J. W. Proctor; Temp. Capt. J. W. Richardson; Temp. Capt. C. H. Sheather; Temp. Capt. S. F. Spurr; Maj. E. C. Webb; Cpl. (actg. Sgt.) H. Buller, 516; Sgt (actg. Staff Sgt.) J. B. Day, SE/568; Pte. (actg. Sgt.) J. Doyle, 5921; Pte. (actg. Sgt.) H. E. Camplin, SE/129; Pte. (actg. L.-Sgt.) J. Gaze, 11167; Pte. (actg. Sgt.) G. Green, SE/6269; Pte. (actg. Sgt.) J. E. Herbert, SE/13429; Pte. (actg. S. Sgt.) H. T. Jupp, 393; Pte. (actg. Sgt.) W. E. McGuinness, SE/7459; Pte. (Sgt.) W. Shuttleworth, SE/1408; Pte. (actg. S. Sgt.) T. Smith, 480; Pte. (actg. Sgt.) W. H. Smith, 184; Pte. (actg. S. Sgt.) F. J. Whibley, SE/3161; Pte. (actg. S. Sgt.) A. E. Williams, SE/5376.

SPECIAL RESERVE OF OFFICERS.

SPECIAL RESERVE OF OFFICERS.

Capt. J. J. G. Keppel; Capt. G. C. Lancaster; Capt. P. T. Lindsay; Capt. G. A. Roberts; Capt. H. B. Williams.

TERRITORIAL FORCE.

Capt, T. S. Green; Capt. (actg. Maj.) C. Hartley; Capt. J. H. Lockwood; Capt. H. W. Southall; Capt. (temp. Maj.) T. D. Young; Pte. W. Black, TT/0369; Pte. (actg. S. Sgt.) A. Oliver, TT/01741; Sgt. (actg. S. Sgt.) E. L. Relf, TT/027; Pte. G. A. Robinson, TT/02938.

CANADIAN A.V.C.

STAFF.—Maj. (temp. Lt.-Col.) A. B. Cutcliffe; Maj. (temp. Lt.-Col.) C. E. Edgett; Maj. C. G. Saunders. Capt. R. G. Matthew.

AUSTRALIAN A.V.C.

STAFF.—Maj. G. G. Heslop; Lt.-Col. W. A. Kendall. Maj. R. M. Hore; Capt. W. MacGregor; Capt. L. L. Paterson; Capt. C. R. Seelenmeyer; Capt. B. C.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, May 25. REGULAR FORCES. ARMY VETERINARY CORPS.

Temp. Lt. to be temp. Capt.: J. Cane (May 10).

Temp. Lt. to be temp. Capt.:—R. A. Murless (May 8).

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Capt. (temp. Maj.) T. Hibbard to be Maj. (May 6).

The A.V.C. Comforts Fund.

Dear Sir,—Enclosed I have pleasure in sending list of latest subscriptions received for the AV.C. Comforts Fund. May I, through your columns, make known that it is arranged to hold the fourth Annual Meeting of Subscribers to the Fund on the afternoon of Wednesday, June 5th, at 3.30, by kind permission of the President and Council, at the Royal College of Veterinary Surgeons, 10 Red Lion Square, London, W.C. I hope very much that all those kind contributors and supporters of the Fund who can possibly attend will be present on this occasion. Mr. Garnett has again kindly consented to take the chair. to take the chair.

ADELAIDE M. MOORE.

20 Parsifal Road, Hampstead, N.W. 6. May 28th.

Subsciptions received since Feb. 9th

Subsciptions received since reo.	91n.			
per Maj. H. E. Gibbs: contbn., No. 8 Vety. Hospl., B.E.F.	£25	0	0	
March 18th.				
Maj. A. N. Foster	1	1	0	
Mrs. Bindloss	1	1	0	
Capt. J. Pollard	1	1	0	
per Miss Betty and Francis Fearnside		10	6	
Miss C. Malcolmson		10	0	
Mrs. William Roots	2	2	0	
Capt. J. E. Young	2	2	0	
Mr. J. J. Townsend	1	1	0	
per Maj. H. E. Gibbs:				
contbn., No. 8 Vety. Hospl.	10	0	0	
Capt. Basil West	2	2	0	
Capt. E. S. James	2	0	0	
Capt. H. B. Colert	1	1	0	
Mr. Peter Wilson	1	1	0	
per Maj. Hugh Ryan:				
contbn., No. 9 Vety. Hospital	11	0	O	
per Mr. J. Ewing Johnston, Belfast:				
Messrs. Robson, Sale and Catalogues	35	0	0	
Miss Johnston	6	0	0	
April.				
Maj. J. A. Dixon: N.C.Os. and men,				
E. Anglian Div. V. H., Huntingdon	10	0	0	
LtCol. A. W. Mason	1	1	0	
Mrs. Ives	6	6	O	
per Capt. T. A. Bryan Cocksedge: con.,		,	5	
No. 1 Convalescent Horse Depot	10	0	0	
Capt. W. K. Johnstone	1	1	o	

THE SOUTHAMPTON "MANGE" CASE.

Sir,—I see you reprint a report of the recent mange prosecution at Southampton. The report is a short one, and omits, I think, the most important facts. The disease was sworn to be sarcoptic, that the parts affected were the withers, back and tail, that it is possible to cure this disease in three weeks or in even a shorter time, that one gallon of mixture was supplied for this purpose and for the dressing of the remaining four in-contact horses.

For the defence it was sworn that excepting harness rubs and old ringworm marks (the latter on one horse) the horses had clear skins, that they had not been clipped—except in places—until May 1 or 2, that the parts usually affected in sarcoptic mange were quite clean (the prosecution here agrees with the defence), and that it was not considered possible for the horses to have

that it was not considered possible for the horses to have been affected with this disease, or to cure it in so short

a time.

One horse was declared free on May 9th, the second horse May 12th.

Occasionally we read of differences of opinion respecting lameness, the presence or absence of sidebones, ringbones, etc., also that for the credit of the profession some enquiry should take place to try to obviate this. It occurs to me that this is pre-eminently a case for such an enquiry. Has a mistake been made and amiscarriage of justice followed in consequence? On the other hand, if there is a remedy in existence for the rapid cure of sarcoptic mange, it is in the best interests of the Empire at the present moment that it should be of the Empire at the present moment that it should be known and credit given to the man who has discovered it.—Yours faithfully,

JOHN B. TUTT, F.R.C.V.S. Winchester, May 27, 1918.

COWS AND CALVES FOR HUMAN FOOD.

COWS AND CALVES FOR HUMAN FOOD.

Sir,—At the present time cows and calves suffering from illness have to be killed under a veterinary surgeon's certificate in a great number of cases. The result is that the man who will give a certificate the most readily is well employed. There is reason to believe that in many cases the attendance of the veterinary surgeon is requested only as a preliminary to the giving of a death certificate, and not a request in good faith for him to examine and treat the animal. The disposal of tuberculous subjects is facilitated by this action, and in many cases there is no subsequent inspection of the carcase. As the fee for writing these death certificates is probably 10/6 it is jumped at by the fly-catchers of the profession; but it is not adding to the reputation of a scientific body of men. Surely a veterinary surgeon should have more respect for his calling than descend to be a mere purveyor of obituary notices.

The Tuberculosis Order needs bringing into force again, and the question of seeing the animals alive before slaughter needs to be under the control of the Local or County Authority so that the Veterinary Inspector under these authorities may decide on the case.

Yours faithfully,

Oxo.

CORRECTIONS.

Page 481, first column: the vaccine report completed is for 1916-17.

Page 477: the initials appended to the abstract on Feeding Wheat to Swine should be F. E. P.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

				Anthrax		Fo and-M Dise	Iouth	Glan	ders.†	Parasitic Mange. ‡			Swine Fever.	
Perio	d.			Out- breaks (a)	Ani- mals,	Out- breaks (a)		Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks	Slaugh- tered.
GT. BRITAIN. Wee	ek e	nded May	25	4	5					96	200	4	36	13
Corresponding week in	{	1917 1916 1915		9 10 10	10 11 11			1	1	40 32 23	64 63 46	4 2	75 128 122	27 356 720
Total for 21 weeks,	191	8		128	144			14	38	2572	4952	254	495	167
Corresponding period in	{	1917 1916 1915		275	304 320 358	1	24	11 21 13	20 62 18	1388 1332 ‡305	2835 3103 ‡699	369 172 151	1128 2047 1719	471 6426 7667

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities.

Board of Agriculture and Fisheries, May 28, 1918

Excluding outbreaks in army horses.

IRELAND. Week ended	Мау	18			 			Outbreaks 4	5		
G	1917 1916				 			4	2	4	24
Corresponding Week in	1915				 			ï	4	9 8	19 41
Total for 20 weeks, 1918			1	1	 			65	163	7	27
Corresponding period in	${ 1917 \atop 1916 \atop 1915 }$		2 2 1	2 6 1	 	1 1	1 3	22 29 18	208 211 230	121 119 116	841 614 700

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), **Dublin, May 21, 1918.**Note.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1561.

JUNE 8, 1918.

VOL. XXX.

THE ANNUAL MEETING.

The first Wednesday in June has again comeand gone, and with it our Annual Meeting. It is almost inevitable that the proceedings must be mainly formal in character—they are the official seal of the body of the profession on the action of its Council for the preceding twelve months. Only the intervention of urgent professional matter is ever likely to produce more than a meagre attendance. This year's meeting was quite up to the average in point of numbers; several faces familiar at the meetings were missing, but there were several present in their place which should help towards a wider interest.

The announcement of the elections to Council was noticeable for the numbers voting. Last year the votes ranged from 531 to 428 for nine men. This year's figures for ten men are 686 to 521—the lowest is only ten votes below the highest of last year. Col. Blenkinsop and Prof. Gaiger are the two names added to the Council this year.

The question of the position of intending students now serving with H.M. Forces was raised by Mr. Gooch. Apparently the remit to the Examination Committee will cover the point. In any case, it appears to be one in which "line and rule" may be laid aside with advantage for a short but definite period.

THE VETERINARY SURGEONS BILL FOR S. AFRICA.

Last week the second portion of the draft Bill relating to Veterinary Surgeons in the Union of South Africa appeared in our pages. The object of reprinting has been to give our readers an opportunity to compare divergencies from the British Acts, both in principle and in detail. It will be seen that some weaknesses of our Acts have been avoided, and that many differing conditions have been met. The draft has been prepared and agreed by the veterinary surgeons practising in South Africa, and that work appears to have been very carefully carried out. It was pointed out when we reprinted the earlier portion that, excepting the first sections (Sec. 1 to 6, Cap. I.), portions only are given—some sections are curtailed, some omitted: and this must be kept in mind. When the Bill becomes law it will be a subject for consideration to some of our younger graduates.

Looking to the future of the profession, probably the most interesting portion will be found in Cap. II., Sec. 22 (p. 490, 2nd col.), et sequitur: which deals with registrable qualifications of the United Kingdom and British Possessions, and the question of reciprocity in license to practice. Probably most men who have given the subject consideration have recognised that a change in this meeting, and they were confirmed.

direction is inevitable. The one problem that has come always to the front is again in view (Sec. 22, (1) (c),) "the curriculum and standard of examination . . . are not lower than those prescribed," etc. But who is to decide that? Good British graduates have been working in South Africa for years past, and they will probably require a curriculum as good

as the one they worked under.

Possibly the time is not yet, but it would seem that a few years hence veterinary education in the larger groups of English-speaking peoples will have reached a comparative level which would enable an agreement, and some measure of uniformity in detail, in the qualification to practise. In the U.S. America twenty years ago there were "qualifications" of little value to the practitioner—and less to his clients. The action of the American Veterinary Medical Association has steadily "weeded" these, and that work is still proceeding. Many of their modern graduates are in the front rank of the profession. In Australia there is a young and vigorous school attached to the Melbourne Univ-The Union of South Africa will not long remain without a veterinary school of their own. And while each of these may have special requirements in pathology, there remains a sufficiently broad basis of common knowledge on which to formulate a standard to license to practice, which should run in each and all of them.

Royal College of Veterinary Surgeons.

ANNUAL GENERAL MEETING.

The Seventy-fifth Annual General Meeting of the Royal College of Veterinary Surgeons was held at the College, 10 Red Lion Square, London, W.C., on Wednesday, June 5th, Mr. Frank W. Garnett, c.b.e., J.P., President, in the Chair.

The following members were present: Messrs. Aitken, N. Almond; Maj. Gen. L. J. Blenkinsop, D.S.O.; Messrs. J. C. Coleman, F. L. Gooch, A. E. Gostling, R. C. Irving; Sir John M. Fadyean, Dr. McI. McCall; Messrs. J. W. McIntosh, H. Mitton, W. J. Mulvey, W. W. Reekie, J. Rowe, F. G. Samson, S. H. Slocock; Sir Stewart Stockman, Maj. R. J. Stordy, D.S.O., Col. E. E. Martin, C.M.O.; Mr. E. A. West, Mr. George Thatcher, Solicitor; Mr. F. Bullock, Secretary.

The Secretary, having read the notice convening the

The SECRETARY, having read the notice convening the meeting, it was announced that apologies regretting their inability to attend had been received from the following members of Council: Messrs. J. H. Carter, P. J. Howard, T. Salusbury Price, and R. C. Trigger.
The Secretary read the minutes of the last annual

Election of ten members of Council, June, 1918. The Election of ten members of Council, June, 1918. The SECRETARY read the Scrutineers' report certifying that the votes recorded in the voting papers for the several candidates nominated for election to the Council were as follows:—Abson, 686; Sumner, 665; Blenkinsop, 659; Banham, 627; Brittlebank, 617; Coleman, 594; Mason, 594; Howard, 543; Packman, 533; Gaiger, 521; Hamilton, 512; Tutt, 254.

There were nine spoilt papers, and three papers were received too late.

received too late.

The PRESIDENT: I declare that the following members have been elected to fill the ten vacancies on the Council: Messrs. Abson, Sumner, Blenkinsop, Banham, Brittle-bank, Coleman, Mason, Howard, Packman and Gaiger. I also declare that, in accordance with the provisions of the Charter of 1914, Mr. Packman takes the place of Maj.-Gen. Pringle, retiring in 1920, and Mr. Gaiger takes the place of the late Prof. Mettam, retiring in 1919.

I propose that a hearty vote of thanks be accorded to he Scrutineers for their services.

Mr. MULVEY seconded the motion, which was carried

ANNUAL REPORT AND FINANCIAL STATEMENT.

The PRESIDENT: Gentlemen,—the Annual Report and Financial Statement are before you. It is usual to take the report page by page. On the present occasion it is the shortest report that ever has been issued in the experience of any member of the Council. We all know that the whole of the proceedings of the Council are published in the veterinary press from time to time, and it was thought well to economise as far as possible. We

It was thought went to economise as ar as possione. We will now take the report page by page.

Mr. Samson: With regard to the report of the Registration Committee on page 2, can you tell us the names of the three members who were removed from the

of the three members who were removed from the Register?

The PRESIDENT: Yes. They were G. H. Pickwell, Walter Gardner and E. J. Sewell.

Mr. F. L. Gooch: Before the motion is moved for the adoption of the report I should like to make one or two remarks. The matter is not referred to on any page of the report, but I should like to ask through you, Sir, whether any concession can be made, with regard to their Preliminary Educational Examination, to young men who intended entering the veterinary profession but who are at present serving with the Colours. I speak feelingly because I have a son who sat for his Preliminary Examination at Camden Town two years ago and failed in his languages. He possessed two Junior and one Senior Cambridge Local certificates. He is now serving with the Colours and is abroad at Junior and one Senior Cambridge Local certificates. He is now serving with the Colours and is abroad at the present time. If he comes back again he hopes to enter the profession, but it will be a very difficult matter for that lad, after being away from study for three or four years, to go back to languages and pass in them. Not one of the certificates that he obtained for the Cambridge Local examinations contained any languages, and I should like to ask if the Council at a future date will be repeated to grant concessions in the languages, and I should like to ask if the Council at a future date will be prepared to grant concessions in that connection. My son is not alone; there are many other veterinary surgeous' sons serving in the Army as privates and in other capacities in different units. I do not suppose for a moment that they will be able to go back to study languages again, and if no concession is made to them they will be lost to the profession. I have not the slightest doubt that the schools will feel the war for some time to come in regard to the entrance of pupils for study. pupils for study.

The President: I may say in reply to Mr. Gooch

that this matter has already been referred to the Examination Committee, and I can assure him that any concessions that can be made to men who have served their country with the Colours will certainly be considered.

Mr. Gooch: I now propose the adoption of the

eport.
Mr. Samson seconded the motion, which was carried unanimously.

unanimously.

The PRESIDENT: We now have to consider the balance sheet. If no one has any remarks to make on it will someone propose its adoption?

Mr. MULVEY: Before that is proposed I should like to say a word or two with regard to the balance sheet. It is, as all the members can gather, a very unfortunate one. It shows that if we had not received some £1100 in voluntary subscriptions we should now be in a state of bankruptcy. I desire to ask the members of the profession who have not yet subscribed to help us to carry on the work of this College. Unless the voluntary subscriptions are kept up I am afraid the work which has been done now for so many years, and which I claim has been usefully done, will have to cease.

The PRESIDENT: If there are no other remarks to be

The President: If there are no other remarks to be made on the balance sheet will someone kindly propose

its adoption?

Mr. E. A. West: I have much pleasure in proposing

the adoption of the balance sheet.

Dr. McI. McCall seconded the motion, which was

The PRESIDENT: Gentlemen, that concludes the business of the meeting. I thank you very much for your attendance here to-day.

Mr. MULVEY: Gentlemen, before we separate I think

it is only due to us to move a very hearty vote of thanks to our President. (Hear, hear.) He has now occupied the Chair as President for four consecutive years, and those of us who are members of the Council know how devoted he has been to his duties. He has never spared himself, travelling as he does so many miles from where himself, travelling as he does so many miles from where he lives. He not only attends the Council meetings but he is almost always here in London. If there is anything that is of interest to the profession or which he considers is conducive to its interests, Mr. Garnett does not hesitate to devote his time to coming up to London to attend to it, and you know what that means. Travelling is very expensive in these days, and it is not only the expense of travelling that has to be borne in mind but also the time that is occupied. I am sure that not only the Council but the profession generally owes a very hearty vote of thanks to the President for the work he has done and is doing, and I move the work he has done and is doing, and I move

accordingly,
Dr. McI. McCall: I have much pleasure in second-

Dr. McI. McCall: I have much pleasure in seconding that.

The resolution was carried by acclamation.

The President: Gentlemen, I thank you all very heartily for your kind vote of confidence in myself. I may say that the work I have done has been a pleasure to me, and in addition I have felt it a duty and an obligation. Anything I can do to advance in any way the interests of the profession I shall always do to the very utmost of my ability.

The meeting then terminated.

At a meeting of the Council of the Southdown Sheep Society, held at 12 Hanover Square, W., on 23rd May, Mr. Harry Willett in the chair, the Council had before Society, nend as 12 Habret Schuld and before them the question as to whether ewes, after having been mated with rams of another breed, could still be sold as pure-bred registered Southdowns, or whether the fact that they had been so crossed should disqualify them from being considered as pure-bred sheep. Cases were quoted as to the effect of an alien service upon other classes of live stock, and the opinion was expressed that if ewes had once been crossed with a ram of a different breed they should no longer be considered as eligible to produce pure-bred sheep. The Council adopted this view and resolved that such ewes should be excluded produce pure-bred sheep. The Council adopted this view, and resolved that such ewes should be excluded from the Flock Book.

* Some remarks on Foot and Mouth Disease and OTHER DISEASES IN RELATION TO DIFFERENTIAL DIAGNOSIS, by A. HOLMAN BERRY. F.R.C.V.S., Board of Agriculture, London.

Mr. President and Gentlemen:—I propose opening the subject for this afternoon with a few remarks respecting procedure and method which are advantageously adopted when enquiring into any suspicious case of foot and mouth disease, whether privately for an owner, or officially for a local or the central authority.

There will not be, I am sure, any difference of opinion that the subject of foot and mouth disease in its relation to differential diagnosis is of the utmost importance to veterinarians. I shall endeavour to stir up your interest during the reading of the paper with the hope that those present may be able to add a share to a most instructive discussion. Nothing has given me greater pleasure while gathering together these notes on the subject, than the anticipation of extending my knowledge on a branch of our departmental work upon which I am frequently called to express an opinion. I am persuaded that busy practitioners are frequently meeting with all sorts of strange and interesting conditions affecting the common seats of foot and mouth disease.

It is desirable to bear in mind the possibility of foot and mouth disease when called upon to examine animals presenting symptoms indicating foot or mouth affections. In such cases it is good practice whenever possible to provide oneself with overall, boots and clothing-preferably of rubber composition. A pair of old boots and old clothes will be of service at short notice, or any improvised protecting garment is better than none at all. The whole should be thoroughly disinfected after use, and similar attention should be given to hat or cap, which may become soiled or contaminated by infective material during any sudden or violent movement of the

animal.

Examination should never be made with gloves, except, perhaps, any kept and used for that purpose. The precaution should be taken to turn up the sleeves of the coat in order to avoid contact with saliva during handling of the parts. This safeguard in itself materially facilitates the examination, by not diverting the attention of the examiner from the question of actual diagnosis to the more or less unsuccessful attempts to prevent the animal soiling and contaminating the attire of the person making the examination.

It is in the appreciation of details—even perhaps more in some cases than actual diagnosis—that the veterinary surgeon can do so much to prevent the spread of in-fection from the premises by animals, persons, and

things, including himself and his belongings. On account of the marked infectivity of foot and and mouth disease and its easy spread to other premises,

every precaution is required on the part of those who are first brought into contact with the suspected animals. Naturally, the veterinary surgeon is looked up to at all times to exercise his knowledge and practical experience in a manner which will not give outsiders the opportunity of just adverse criticism or reflect dis-

credit upon the profession.

It must be remembered that any unnecessary delay or indiscretion on our part may be the means of the disease being conveyed hundreds of miles distance in twentyfour hours. Wherever a reasonable suspicion exists, suspected disease should be notified to the local authority through the police at the earliest moment, and everything done to prevent the escape of infection by

the timely change of clothing, and disinfection of hands, clothing and boots, and places, and things.

No animal should be permitted to be moved to other premises, and the general idea to bear in mind should always be to arrest movement, and if movement is necessary, under veterinary advice and supervision, the movement would almost invariably be inwards and never outwards.

Inquisitive neighbours and other persons must be kept outside. One farm hand should be allotted to the sick animal and he should not leave the isolation box or premises without a thorough disinfection each time after entry thereon. A bucket of disinfectant should be arranged for, placed at the entrance of isolation premises or buildings, and renewed as required. Everything used about the suspected animal should be cleansed and disinfected after use, including the thermometer, before removal from the premises.

One is well repaid by any extra trouble taken at the earliest stage of enquiry. Not always financially, but in that higher sense of professional duty, should disease appear elsewhere; and perhaps still more so, should it

not appear on other premises.

Every such common-sense precaution is a safeguard in the interest of stock-owners generally, and clients in

It is important to draw a strong line of distinction between personal desires or individual hardships of particular owners, and the correct professional attitude towards the disease under consideration. The question is a wide one, and decisions must be arrived at in the interest of the community.

From time to time, instances of professional in-attention, and thoughtlessness are encountered, whereas a little forethought could have prevented such omissions occurring. At the time, they give rise to much comment

and all sorts of hard statements.

METHOD IN EXAMINATION.

In order to place onself in the most favourable position to arrive at an accurate and prompt diagnosis, it is advisable to make a more or less routine examination. A good deal depends upon the method employed. It instils confidence to the examiner himself as well as to others, and leads to accuracy in diagnosis and reliability of opinion.

It is never a waste of time to watch the animal before disturbing it, in order to note the general behaviour of the animal, and in the more particular, to listen for sounds of the mouth as "smacking of the lips," and to detect unusual movements of the limbs as "striking out of the foot." To observe how food (if any) is taken into the mouth, and whether it is masticated, swallowed, or "quidded," also to note the presence of salivation, and whether it is frothy or ropy in character. Inspection of the trough and ground area where the animal has been standing since illness commenced should be made, for evidence of salivation, etc.

This interval is also an opportunity to pursue a quiet conversation with the owner or herdsman with regard to the history, manner, and symptoms exhibited since sickness observed. The temperature, pulse and respirations will also be recorded before disturbing the animal.

The animal is then made to move and the character of its movements noted.

To proceed with the closer examination of the animal: 1. Examine the mammary gland and each teat, noting any lesions thereon.

2. Pass the hand down each leg, and note whether there is any resentment to gentle pressure around the coronets or at the back of the heels.

3. Examine the head and mouth in a good light, with the head firmly held in a proper position. Whenever possible the examiner's hands should be kept free for

^{*} Paper read before the Midland Counties Veterinary Medical Association Meeting held at Birmingham, May 14th,

handling the parts to be examined, and not for restraining the movements of the animal.

(a) Examine the nostrils and muzzle for swellings and definite lesions. (b) Under surface of upper lip, and dental pad. (c) Under surface of lower lip and gums. (d) Inside cheeks. (e) Under surface of tongue. (f) Hard palate and pharyngeal region. (g) The tongue. First, take a general view of it, noting any abnormalities on the surface, along the edges, or at the Turn the tip upwards, examine the lower surface and the fraenum.

It will usually be found advisable to withdraw the tongue, unless the lesions are very definite and typical. A good deal of resistance is offered at times, especially by individual animals, when the tongue is the seat of lesions, and foot-and-mouth lesions in particular. withdrawal of the tongue by the hand can be facilitated with the aid of an old woollen glove or piece of towelling, which prevents the tongue slipping through the fingers. In this way a good view can be obtained of the posterior upper surface of the tongue, and the free hand can be passed along the surface.

Special attention must be directed towards the anterior end of the tongue which is usually covered rom view by the hand gripping that part. This can be done by taking a second grip behind the first one with the other hand before releasing the first hold, with or without the aid of the cloth, as the case may be. The antemanipulated with a free hand. If there is any mucus or "coating" on the tongue or hard palate it should be removed by washing the parts with the hand, or wiping with a wet rag until a cleansed sarface is obtained

To complete the examination, each foot should be examined, after having been washed to remove any dirt adhering or caked over the surface. Particular attention should be directed towards the heels for lesions, and separation at the junction of horn with the skin, around the coronary band. Examination should also be extended to the interdigital space for the presence of lesions, intact or ruptured.

When suspected animals are at pasture, away from buildings, it may be necessary to erect an improvised enclosure in order to get the animals together, and secured for a proper examination. It is not good practice to chase round fields after animals, with the risk of breaking thr ugh hedges and fences. A good gate will make one side of the enclosure, although better not erected at that spot if the gate adjoins a public road. when that is the case the gate should be hurdled off on the inside to prevent access of the animals. A few hurdles firmly bound together against a tree with additional hurdles fixed on end to prevent animals climbing over, will meet some cases, or it may be necessary

to resort to the use of stronger posts and rails.

The two conditions which are usually found indispensable in making an examination of animals suspected of foot-and-mouth disease are that the head is held in the proper position, and that the light is good. Whenever possible, the final examination, at any rate, should be made in daylight, especially when there is only one animal affected.

The best advice is, never be hurried—take time—at the same time there is no need to delay anything or to keep back for further observation a typical or very suspicious case of foot-and-mouth disease among a number of animals; such action is quite unnecessary and cannot

Cases may arise in practice in which the symptoms Cases may arise in practice in which the symptoms and lesions present do not support a strong suspicion of foot-and-mouth disease and yet may leave the veterinary surgeon dissatisfied or desirous of another opinion.

Arrangements can be made for one of the Board's Veterinary Inspectors to visit the premises in consultation

with the local veterinary surgeon, on application to the Board of Agriculture.

The request that a veterinary inspector might consult with a veterinary surgeon on a case of stomatitis or other suspected lesions in animals, met with in his prac-tice, should be addressed to, "Secretary," Board of Agriculture and Fisheries, 4 Whitehall Place, London,

S.W.1 (Teleg. Address: Agrigi, Westrand, London).

Another point I would like to touch upon is the necessity to recognise the nature and character of the lesions present. It will be found of great assistance to possess a clear knowledge and mental vision of the normal appearances of the organs concerned and such conditions as hyperæmia, congestion, and inflammation, which may be definite or merged into one another. These conditions may be diffused or in local patches. Regarding more advanced and significant lesions, we meet with the papule or small swollen nodule, the vesicle, a small sac, bleb, or simple blister, containing clear, straw-coloured or slightly blood-tinged serum; the pustule, usually a small nodular swelling or boil containing purulent matter. Lesions may consist of minute capillary extravasations of blood in the form of petechial or

hæmorrhagic spots, or larger extravasations of blood.

Most lesions vary in size, from about a pin's head to
a crown piece. Usually the larger lesions are due to coalescence of smaller ones.

Further, we meet with single or multiple, open, ulcerated, or suppurating wounds, sores, or erosions involv-ing small centres or larger areas of tissue. It is necessary to consider whether these conditions are the later stages of ruptured isolated lesions or that the loss of epithelium is due to causes acting from without, including cuts and wounds or small areas denuded of epithelium on the tongue, cheeks, and lips, denoting tooth marks.

In addition to the lesions and conditions mentioned, there are those of a more or less definite catarrhal, cedematous, croupous, diphtheritic, fungoid, necrotic, fibrous, warty, or neoplasmic nature.

The question which not infrequently arises in one's mind when viewing lesions which cannot be considered typical of foot-and-mouth disease is whether the lesion typical of toot-and-mouth disease is whether the lesion is an atypical one, or whether it indicates that a previous typical lesion was probably present. Finally, there are healing and 'healed lesions to be considered with regard to their relative importance.

In my judgment, this sort of mental review is frequently necessary if the case is to be dealt with in a professional manner, and for the examiner to get the best out of himself.

best out of himself.

VARIOUS PATHOLOGICAL CONDITIONS.

I propose to bring before your notice a number of pathological conditions affecting the buccal or oral cavity, including the muzzle; also the feet and the teats.

You may perhaps question the inclusion of some of them as unlikely to be confused with foot-and-mouth disease, but they are included because they have been encountered in connection with cases of suspected footand mouth disease.

In the first place I would refer to a condition which from time to time is a subject of enquiry. I have only met with it in the case of fresh calvers. The cause of the alarm is due to excessive salivation, and the sugges-tion of acute lameness is due to paddling movements of the feet and general restlessness of the animal. Red spots on the tongue have been reported to be present but I have never seen any lesion, and with one or two exceptions the symptoms have subsided by the time of examination. The condition appears to be closely related to parturition.

Next in order of less importance from a differential

diagnostic point of view, is the presence of foreign bodies, injuries, dental troubles, tumours, abscesses, and cases of choking, which may exhibit certain suggestive symptoms, but which should occasion no difficulty to an

accurate diagnosis on examination.

There are also those cases of excessive salivation combined with general inflammatory changes to the buccal membrances due to chemical irritants arising from the use of insufficiently diluted therapeutic agents, in the form of drinks and electuaries, or from the prehension of skin dressings or other poisonous substances taken in with the food, or otherwise. Advanced cases of Husk may also give rise to suspicions, from time to time on account of the deceptive symptoms exhibited.

I am quite unable to account for many of these strange cases, and shall be glad to learn from members present their experience with regard to these agents-chemical, thermal, mechanical, or traumatic-which produce injury and pathological changes to the mucous mem-

brane of the mouth.

Among the causal agents mentioned by Huytra and Marek (Special Pathology of the Domesticated Animals), and Friedberger and Frohner (Veterinary Pathology), are the licked-up hairs or the bearded grains of barley, scalding food stuffs, chemical irritants, and the continuance of certain medicines internally, as mercury, iodine, and lead; fermenting foodstuffs, and vegetable poisons, as spurge, the hemlocks, mustard, ranunculus, and even insufficiently made hay; also the uromyces, the fungi which live on Swedish clover.

Other poisonous plants, containing chemical contents,

are aconite, hellebore, daphne, colchicum, corn poppies, tobacco, corn cockle, foxglove, yew, rhododendron, etc.

Further causes of stomatitis given by these authors are the ingestion of fodder infected by blight fungi (uredineæ pyrenomycetes), the rape destroyer (polydesmus exitiosus), the common grass (puccinea graminis). and corn blight (puccinea arundinacea).

Among the rusts, bunt (tilletia caries).

The hairs of caterpillars are said to be a special cause of stomatitis.

Beside the mechanical irritation there is probably the presence of formic acid. Plant lice (aphis) are also stated to be the cause of lesions within the mouth. To these agents may be added the bites and stings of

I make use of the term "Stomatitis" in an accommodating and general way, to include many affections of the mouth—the nosological termination "itis," denoting the usual inflammation.

Stomatitis may be primary or idiopathic, and, secondary when it appears in the course of systemic diseases.

The following list covers the number of diseases and abnormal conditions of the muzzle and buccal cavity that I desire to bring before your notice, and if time permits, a few remarks in connection with lesions on the teats and feet will be added.

- Catarrhal stomatitis.
- Petechial stomatitis.
- 3. Papular stomatitis.
- Foot-and-mouth disease.
- Vesicular stomatitis.
- Pustular stomatitis.
- Ulcerative stomatitis.
- Necrosing stomatitis.
- Necrotic ulcers on tongue. Mycotic stomatitis or "dirty tongue" disease. 10.
- Pseudo-membranous stomatitis of sucklings. 11.
- Spreading sores of lips. 12.
- Ranula or Frog tongue. 13.
- Actinomycotic stomatitis. 14. Pustular dermatitis.

Catarrhal stomatitis. As the term indicates, it is an inflammatory condition of the mucous membrane of

the mouth. In extent, it may be diffused or localised and there is present more or less mucus on the surface. Frequently met with in one animal. A condition of hyperæmia congestion or inflammation may be diffused over the greater part of the buccal membranes or arranged in patches in one or more situations. The principal seats appear to be in the order—hard palate, cheeks, lips, and tongue.

The hyperæmic condition is often confined to the hard palate and cheeks, and generally in quite small spots or areas. The congested patches are more marked and larger in extent, whereas the actual inflammatory parts are recognised by the presence of the usual changes, e.g., heat, redness, swelling, and cedema; also varying degrees of pain are expressed by the animal.

Spherical linear markings, red in colour, may be present, chiefly on the hard palate, varying in size from a sixpence to a shilling-piece, or even larger. The coloured outline suggests local injection of capillary vessels and is well depicted on the surrounding paler normal tissue. In cases of this description the appearance mentioned may be quite masked from view by the accumulation of tenacious mucus, which will require removal before the examination can be completed.

Hyperaemic, congested, or inflammatory lesions are not unusual in young suckling calves about the dental pad and the mucous membrane of the upper lip. Less frequently, similar lesions are present in the lower jaw in front of or behind the incisor teeth. It is quite possible to meet with these simple, and I might add, almost insignificant conditions in young calves which have died rather suddenly from an acute febrile attack of foot and mouth disease. In fact, so serious and important a disease may never be thought of, let alone suspected, until other animals are examined, or typical lesions of the disease appear at a latter date. In any mysterious death among calves showing definite hyperaemic or congested lesions on the buccal membranes, an examination of the feet should be made, together with a general enquiry into the health of other contact and susceptible stock on the premises.

A chronic catarrhal condition may exist, more especially in animals which have not been thriving for some time. In these cases the mouth is in a very "furred" and unhealthy condition, and the entire membranes may be covered with a thick coating of mucus, food particles and epithelial casts. After removal of this covering, the mucous membrane presents a dull unhealthy-looking appearance. At times no actual or definite lesions may be revealed, whereas at other times small hyperaemic congested or inflammatory lesions on the lips, gums, hard palate and tongue may be present. The tongue, more particularly along the edge, may show slight or more marked ulcerative

lesions.

A foul catarrhal affection of the mouth is not an infrequent indication of digestive trouble or specific disease, as tuberculosis, when the lesions themselves may be tubercular in origin.

Petechial Stomatitis. A condition seen in young stock about six months to twelve months old, indicated by the presence of small petechial spots disseminated over the mucous membrane of the buccal cavity, including the tongue. Usually only moderate in number, sometimes more numerous. Apparently the condition does not give rise to any disturbance of health, although some may be dull and listless. The condition is generally discovered as the result of "mouthing" contact animals to an animal showing some more definite symptoms of mouth affection. Quite possibly the animal upon which suspicion of foot and mouth disease was cast had at some previous stage shown this simple condition, which of itself, under ordinary circumstances. would probably fail to excite attention.

Papular Stomatitis. A condition indicated by the Papular Stomatitis. A condition indicated by the presence of numerous nodules or papules, small hard elevations firmly set in the tissues affected. Often seen at the angles of the mouth and along the line of junction with the skin of the lips, inside the cheeks; less frequently on the tongue. When the tongue is affected they may be found on the under surface of the free end. Frequently they are formed in the skin of the muzzle firmly adherent to the under structures. Multiple papules coalesce and form larger areas, and the surface may be red, sore and inflamed.

may be red, sore and inflamed.

The initial inflammatory nodule is surrounded by a reddened base. The nodules are hard and resistant on manipulation. A drop of blood or serum may escape from the surface on digital pressure being applied to the nodule. After the formation of the nodule the epithelial covering desquamates, exposes an unhealty red spot or surface—sometimes crustation on the skin takes place. The centre of the lesion is depressed and the edges are hard and thickened. After resolution of the parts the previous site of the nodule can be located for some weeks by the new cicatricial tissue. Many of the nodules do not develop beyond the papule stage; they decrease in size and prominence, and "die down." Subsequently the epithelial surface can be easily picked up or rubbed

The condition affects a number of animals, and is regarded as infectious. The general health of the animal is not appreciably interfered with, although individual animals do not do well for a time, and may

Foot and Mouth Disease. According to Fleming's Manual of Veterinary Science and Police, published in 1875:—"The diagnosis of this malady is very easy and it is almost impossible to mistake it for any other disease." In these days, however, things may not always be so easy, as we cannot afford to wait until a number of animals have fallen with the malady. Instead

number of animals have fallen with the malady. Instead of dealing with a typical outbreak we may be confronted with a single animal, and the lesions present may not provide the classical description of the disease.

You will bear with me when I remind you to beware against bringing—and quite inadvertently it may be—a text book description of a typical case of disease to the defence of our diagnosis when the actual facts before us do not support our opinions. The method may, on the other hand, be applied to establish, adjust or correct our opinions before we express them. This is just a note by the way.

note by the way.

Foot and mouth disease is in part a vesicular stoma-Foot and mouth disease is in part a vesicular stomatitis, but the vesicles are not confined to the mouth; they are also usually present on the teats and the feet. Hence the old name "Foot and Mouth disease" will be retained as the more expressive title for the disease, and also in distinction to other forms of vesicular stomatitis which are not characterised by the presence of infectivity, febrile symptoms, systemic disturbance, lameness, and the presence of lesions on the teats or feet.

In foot and mouth disease true vesicles are present, i.e., just blebs or small bladders containing fluid. They are situated on any portion of the tongue, usually upper

1.6., just blebs of small bladders containing fluid. They are situated on any portion of the tongue, usually upper surface and anterior third. The unruptured lesions often stand out prominently and are well-defined and vary in size from a pin's head to a small hen's egg. The mucous membrane over the lesion is at first unaltered in nucous membrane over the lesion is at first unaltered in appearance, often decidedly pink or occasionally quite red in colour, and later is seen as a yellow or dirty brown necrosed piece of tissue. The saculated membrane forming the vesicle and holding the contents, can be picked up between the fingers, causing rupture of the vesicle and escape of the contents. If quite recently formed, the membrane may offer some slight resistance on manipulation, but very soon the over-lying membrane becomes necrosed, is yellowish in appearance, and can

be easily ruptured—if it is not, as is more often the case, already broken.

When lesions are present, the animal usually resents

already broken.

When lesions are present, the animal usually resents any handling of the parts affected. The size of the lesions varies, usually from a pea to a five-shilling piece, or it may be so large as to involve the lower third or fourth of the tongue. Lesions which become ruptured soon after formation expose a bright red base. The mucous membrane is free and ragged round the edges of the lesion. The tongue is usually not appreciably swollen or tumefied, and generally "clean" in appearance. There is no suppuration present in an uncomplicated case of foot and mouth disease. The lips are often "puffy" or swollen, and the lesions may be present anywhere, usually the most frequent and typical seat is under the upper lip, laterally situated near the junction of the skin, extending towards the dental pad. Small but similar lesions may be seen, but less frequently, on the membrane of the cheeks and hard palate. Vesicles are present at times, and often of considerable size, on the muzele and inside nostrils.

In sheep, the dental pad is the commonest seat of lesion. There is no marked accumulation of serum under it, but the whole surface becomes separated from the underlying tissues and can be pushed off or removed with the finger into the hand. Other vesicles in the mouth, notably upper and lower lip, may be present, but less frequently, and usually very small in size.

In pigs, the snout and inside of nostrils are the commoner seats affected in connection with the mouth, although small vesicles are met with elsewhere, sparing in number and scanty in exudate.

Of course the entire clinical picture exhibited by the

although small vesicles are met with eisewhere, sparing in number and scanty in exudate.

Of course the entire clinical picture exhibited by the animal or animals, taken in conjunction with the lesions, is of the utmost importance and assistance to a differential and accurate diagnosis. Constitutional disturbance and falling off in condition is most striking in some access carpially miles cows while in other cases it is cases, especially milch cows, while in other cases it is not nearly so well marked.

cases, especially milen cows, while in other cases it is not nearly so well marked.

Inappetence or quidding of food is commonly present. Salivation most marked and constant at the onset of disease which is at first frothy and later ropy in character, depending on size and stage of lesions.

"Smacking of the lips" is invariably present during the early stages of the disease when the lesions are extensive, or single unruptured lesions of large size exist on the tongue; also, after they have burst or been ruptured, until the raw red base has become covered with a firm coagulum of lymph.

Lesions on the teats fairly constant.

Lesions on the feet usual, but their presence not necessarily essential. Lameness is acute and well-marked until the foot lesions have ruptured. The affected animal is restless and uneasy on its feet when standing. Snatching up, shaking, and striking out with the affected foot—as if to free some foreign body lodged between the claws—is a constant symptom of lesions in between the claws—is a constant symptom of lesions in

The internal temperature rises several degrees until after the formation of the vesicles, when it usually falls

to near normal.

In sheep or in pigs salivation is not very appreciable, but lesions affecting more than one foot together with acute lameness is strikingly marked in both these

animals.

Before passing on to the next condition affecting the mouth, I would offer you a word of remembrance. Don't let the exceptional animal deceive you, for in practice you will perhaps one day find to your surprise an animal walking apparently sound with lesions in all four feet, and an animal enjoying a mouthful of hay with a huge lesion in the mouth, or an animal with a temperature of 108° or more revealing no indications of ill-heath, or a young animal dead from the virus of foot

and mouth disease, showing no lesions. Occasionally an animal may show but a single lesion in a solitary situation; or several animals affected with a mild form of the disease may show very small or slight lesions or disturbance in health and condition.

These are some of the lessons learnt in the field, indicating the necessity for every precaution, and taking nothing for granted; and that the idiosyncrasies among

animals cannot be answered by logic.

Next to the possibility of being misled by the behaviour of the animal, is the certainty of being misled, from time to time, by owners or attendants, for they will tell you that lameness is soundness, that salivation is dessication, that inappetence is gluttony, and so on. Hence the necessity to see and handle everything for ourselves if we accept the responsibility of the opinion we are asked to give.

Vesicular Stomatitis. After what has been said with regard to the vesicular nature of the lesions of foot and mouth disease, it is needless to say that any lesion of a vesicular character within the buccal cavity, or at other seats of foot and mouth lesions, must be regarded with suspicion and cannot be dispensed with until further observations have been made.

Vesicles may appear a primary lesions or be preceded by the papule stage when they are usually recognisable as such. They may also be succeeded by the ulcerative

There is often present more or less catarrh of the buccal mucosa.

The vesicles may be isolated, or multiple and in patches. They vary in size from a pin's head to half-acrown or more; they are spherical or lenticular in shape, and may be situated on any part of the mucous mem-

When the vesicles rupture, a little clear serum escapes, and a dark red or a reddish-brown base is exposed. They may rapidly heal, or may pass into the ulcerative stage, when they appear as small ulcers or erosions on the mucous membrane.

Fungi, moulds, plants or weeds in forage, hairs of caterpillars, etc., have been looked upon with suspicion as the cause of these lesions, but nothing has been definitely proven.

My personal experience in meeting with this form of stomatitis has not been wide. The commoner condition met with has been the presence of small spherical vesicles or pimples along the edges and under surface of tongue. Larger isolated open lesions have been met with on the tongue, having quite a crater-like appearance. They are generally confined to the anterior third of the tongue, and the tip is not infrequently involved, where the open lesion is often horse-shoe shaped. In these particular cases one animal only was affected, the lesions were single, and there were no feet lesions.

More extensive, but somewhat similar lesions have been met with by my colleagues, when several animals were affected on the same premises, and the lesions were sometimes two or more in number. In some instances what was considered to be a papule or nodular swelling appeared at the tip of the tongue and on the surface of the papule a small vesicle developed, varying in size up to a bean, or even larger. The vesication, not infre-quently, extended to the under surface of the tongue and burst at this point of least resistance. Similar lesions were also met with in a few cases on the border of the lips.

Lesions were also encountered at other situations, but more commonly the anterior third of the tongue; The lesions are usually tough and require a good deal of pressure to bring about a rupture of the membrane.

When squeezed between the fingers, a small punctured between the fingers, a small punctured lesions on the mucous surface. A smillar lesion was not the squeezed between the fingers, a small punctured lesions on the mucous surface. A smillar lesion was

aperture a fine jet of a few drops of fluid can be forced. The unruptured lesion is more firmly set in the tissues. The rupture is small and near the centre, and the over-. lying membrane is not easily torn away, whereas in foot-and-mouth disease it is more general, usually around the periphery of the lesion; and the overlaying membrane rapidly breaks down and is easily removed.

I have also received no suggestion that the primary vesicular lesion arises beneath the corium, but I cannot speak definitely on this point at the present time. If such is the case, the open lesion would be deeper, and the loss in tissue replaced by actual scar tissue—the papille having been destroyed.

There was not observed at the time of examination any appreciable systemic disturbance or rise in temperature, and in no instance was any lesion of a vesicular nature met with in the feet. There may be present a good deal of salivation and some evidence of uneasiness in the mouth.

Hutyra and Marek divide aphthous-like diseases, i.e., those showing vesicles, into two groups. The first group is characterised by the presence of vesicles on the buccal mucosa or muzzle. The principal seats are the hard palate and gums, more rarely the sides and the tip of the tongue, lips, and cheeks. The presence of the vesicle is indicated by a greyish white or greyish brown deposit (pseudomembranous) on a reddened surface, or in other cases round intensely red erosions.

The second group is characterised by the simultaneous affection of the buccal membranes, of the integument of the muzzle, of the integument of the extremities, and of the udder. There is a rise of temperature, the usual febrile symptoms, profuse salivation and smacking sounds of the mouth as in foot-and-mouth disease. The mucosa of the mouth is intensely reddened, and covered with corrugated, diffuse, pseudomembraneous deposits, especially the hard palate, the gums, and the inner surface of the lips. Lenticular yellowish-red or greyish nodules, or crusts with a central depression appear on the muzzle, and exceptionally on the nasal mucosa. There is a dermatitis of the lower extremities as seen in clover disease; also on the skin of the udder nodules the size of a lentil, with several vesicles and subsequent crust formation have been seen.

The differential diagnosis is determined in foot-andmouth disease by the appearance of vesicles on the feet and buccal membrane, including the back of the tongue, and the absence of pseudomembranes. Apart from foot-and-mouth disease, the contagious nature is usually absent, and also the vesicular lesions on the feet

and udder.

I am afraid the attempt to elucidate the clinical picture of cases of vesicular stomatitis has occupied a good deal of time, and that the description may have left much to be desired. However, I trust it has not failed in fixing the importance of treating all cases of vesicular stomatitis with due suspicion, and close observation as to the exact nature and extent of the lesions.

Pustular Stomatitis. Pustular stomatitis is indicated by the presence of multiple inflammatory nodules on the buccal mucosa. The nodules rupture and suppurate. Definite ulcers are formed, or as is more often the case, due to the coalescence of multiple lesions, larger, ulcerated, granulating, and hæmorrhagic areas are formed.

As a contagious disease the affection is, I believe, more especially an equine one. A contagious form of pustular dermatitis is commoner in young cattle and

sheep

hole is made at the summit of the lesion, through which | met with on the outside of the lip. The nodules variep

in size from a split pea to a sixpence. Exudations, matting of adjacent hair, and crustation over the affected parts was present.

Ulcerative Stomatitis. The ulcerative condition may follow on as a result of the papular, vesicular, or pustular lesions, or in association with general unthriftiness, or to other specific diseases. It is a condition fre-Ulcerative Stomatitis. quently seen in connection with a chronic catarrh of the

uncal cavity.

The chief seats met with affected were the edges of the free portion of the tongue, extending to the under surface, also small ulcers or larger ulcerated patches on the contract of the molar teeth, dental the buccal membrane adjacent to the molar teeth, dental pad, hard palate, and around the gums, particularly inside the incisor teeth.

The ulcer is frequently preceded by a superficial ne-crosis of a piece of mucous membrane from the size of a erosis of a piece of mucous membrane from the size of a mere spot to quite a large patch, or it may increase slowly in size by erosion. The lesion has a punched out appearance and the floor of the ulcer is usually red and hæmorrhagic, and even granulating. At other times it is more indolent in character. With the former condition there may be an appreciable amount of discomfort to the animal, and excessive salivation present.

As might be expected when an animal has a history of unthritiness it is not at all uncomments finds above.

As might be expected when an animal has a history of unthriftiness, it is not at all uncommon to find a dermatitis to the skin in the region of the fetlocks and coronets, and also small wounds, abrasions, or erosions around about the heels, but I have not met with anything typical of genuine foot-and-mouth disease. Footsoreness may be present, or lameness due to foul in the foot, foot rot, or injury to the foot or fetlock.

Ulcers and erosions of the buccal mucosa, varying in size, are common lesions in the course of such diseases as rinderpest, malignant catarrh, and calf diphtheria, following the desquamation of the epithelial croupous casts or pseudomembranes.

casts or pseudomembranes.

Necrosing Stomatitis. In this condition multiple small necrotic nodules are present on the muzzle and lips, and in a lesser degree on the mucovs membrane of the and in a lesser degree on the mucous membrane of the lips. The lesions are prominent and hard, black or dark in colour, about the size of a pea to a threepenny piece, and suggestive in appearance of a small "sitfast." In the course of time separation takes place between the diseased and healthy tissues, and the necrosed nodules become detached, being rubbed off by the animal; or the centres fall out of place, leaving round holes or depressions in the skin, which heal up under favourable conditions.

Other lesions may be felt as noduleshard and shot like-in the mucous membrane, immediately beneath like—in the mucous membrane, immediately beneath the surface, which in some instances appear unbroken to the naked eye. In those cases in which the necrotic centres had sloughed out small circular holes or cavities were seen in the mucous membrane of the lips, around dental pad, and the pad itself. There was usually not more than one or two such lesions in the same animal at the time of examination.

at the time of examination.

This condition has also been met with in connection with cases of so-called "dirty tongue" disease.

Necrotic ulcers in tongue and buccal membrane. In this condition there are well-defined single, or occasionally more, concentric areas of necrosis in the tongue sionally more, concentric areas of necrosis in the tongue or cheeks, varying in size from a shilling to a florin piece. The necrosed areas are well-defined from the surrounding healthy tissue, and are yellow or brown in colour. In course of time separation of the necrosed portion takes place, the dead tissues slough away, leaving a correspondingly large, single, or more, holes or cavities in the substance of the tongue. There are no cavities in the substance of the tongue. There are no close edges of epithelium. The epithelium forming a boundary zone to these lesions is closely bound down to the underlying tissues. The cavity is almost a quarter

of an inch or more deep. There is no hæmorrhage or inflammation of the parts, the open lesion takes on the general characters of an indolent ulcer as met with in cases of swine fever. The lesions on the cheeks were near the angle of the mouth.

Mycotic Stomatitis or "Dirty Tongue" Disease. I am not at all sure of the nomenclature of this condition. If not strictly accurate, it is at least a sugges-

ive description of the condition met with.

In this affection there is a deposit or deposits on the In this affection there is a deposit or deposits on the surface of the tongue which can be readily seen as small yellow or brownish spots, slightly raised from the surrounding parts. The lesion increases in size around the circumference in a ring-like manner. The centre and older portion of the lesions assumes a darker colour, peels off or drops out, leaving a well-defined, clear, white contral area entral area.

When several lesions are present, they become confluent. The general condition of an advanced case arrests thoughtful attention from its striking and detailed. fluent. ceptive appearance, which is due to the clear, white central area in contrast with the discoloured peripheral zones. In this condition there is some resemblance to the general appearance of a tongue showing healing or, more particularly, healed lesions of foot-and-mouth

more particularly, healed resions of loot-and-mound disease.

However, when once the condition is recognised, it is easily differentiated by the absence of vesicles, and the presence of the dirty deposit which gives to the disease the descriptive local title of "dirty tongue."

With the exception of the superficial horny layer of epithelium, there is no rupture or loss of mucous membrane. The horny layer, if not interfered with, desquamates into the mouth, or it can be peeled off with the fingers in flake-like fragments or patches of considerable size. During the process the papille of the tongue can be seen receding from the horny layer leaving a finely perforated, detached piece of dirty loooking dried horny membrane within the grasp of the fingers. If this brittle thin piece of membrane is held up to the light the perforation can be easily depicted, suggesting in appearance a piece of incandescent mantle or perforated.

in appearance a piece of incancescent mantle or perforated zinc.

A similar very superficial, and less distinct lesion is
usually present on the mucous membrane of the lips—
the upper lip in particular. The extension of the labial
lesion is usually very rapid, and it loses itself at the
junction of the mucous membrane and skin proper. A
dirty, yellowish-brown line of remaining tissue-like
membrane marks the boundary of the lesion, under
which the finger nail may be inserted. There is no
appreciable broken surface but usually the whole area
is temporarily somewhat more highly coloured pinkishred than normally, following the flaky exfoliation.

The general appearance of the affected parts may at
first sight suggest a certain stage in the lesions of footand mouth disease. Closer examination will usually
disclose the deception and reveal the true character of
the lesion.

the lesion.

In pronounced cases salivation is present, and the general behaviour of the animal arrests attention, but it is not uncommon to find on examination of unsuspected contact animals at grass, evidence of the diseased condition of the tongue and lips. There are no lesions on the feet and no lameness present.

congested spot, which becomes swollen, intensely red, inflamed and cedematous. The lesions break down, and bleed readily on manipulation. The milk teeth often fall out prematurely, i.e., directly, as a result of the disease.

There are also present on the intact lesions, pseudomembraneous deposits of a cheesy or diptheritic nature. These slough off, leaving a raw angry-looking hæmorrhagic surface. They may be present also on the tongue, usually on the side adjacent to a lesion on the lips or

angle of the mouth.

The lambs are very ill, look very dejected, and are unable to suck if they desire to. A large number succumb to the disease. I have not seen any lameness or foot lesions associated with the disease, and I have not observed any similar condition amongst the ewes.

I might add, however, that one or two practitioners have drawn my attention to the fact that a very similar, if not the same condition, of a contagious nature, affect ing the external genitals, existed in a large proportion of the ewes of the flock during the previous late summer or early autumn. It was considered that the infection might possibly have been conveyed to the feetus during gestation. An apparently arrested and mild form of the genital affection has also been noted in a number of the ewe lambs at the time of docking.

Under this heading I would make a passing reference to diphtheria in calves, characterised by a diphtheritic inflammation of the buccal mucosa. The symptoms and general appearances during life are very suggestive of foot and mouth disease until a closer examination is

made.

Spreading Sores of the Lips. A benign condition, seen on several occasions in young cattle, affecting the mucous membrane of the upper lip. It appears as a superficial circumscribed sore which extends slowly around the periphery. It is very red in colour and bleeds slightly on manipulation. It does not appear to give rise to any disturbance to the general health of the

Ranula, or Frog Tongue and Tooth Marks. A condition indicated by the formation of a large, painful, oedematous, intensely reddened swelling under the tongue, with more or less corresponding swelling of the submaxillary gland. It is generally regarded as due to an obstruction of the ducts to the sublingual gland, set up by the penetration of foreign bodies taken in with the food. Pus may be seen escaping through Wharton's duct, or abscess formation may take place. Profuse salivation is present and the animal is distressed and unable to eat.

Attention is drawn to the presence of tooth marks on the tongue, cheeks, and upper lip. The situation will be invariably opposite the offending tooth, and usually recognised as due to the teeth. Those upon the cheeks and lips are more distinctly cuts, especially the latter. The usual tooth mark on the side of the dorsum of the tongue is in the form of small round of oval lesions with thickened borders and denuded of epithelium, showing a depressed brownish base. The peripheral epithelium is usually intact. Occasionally a deep clean cut wound inflicted by the incisor teeth will be found on the free end of the tongue.

Actinomycotic Stomatitis. In this disease the buccal membranes are frequently the seat of lesions, particularly the tongue. In the first instance, small hard yellowish nodules can be detected under the mucous membrane with an accompanying induration of the tongue. The tongue becomes enlarged and hard, protruding from the mouth, hence the common name "wooden tongue."

There may also exist the characteristic actinomycotic

ulcer within the so-called "food cavity" of the tongue, which is situated directly in front of the dorsal promi-The cavity is frequently plugged with foodstuffs, hairs, etc., the actual lesion being covered from When forcibly removed the whole appears as an offensively smelling mass of decomposing foodstuffs, mixed with purulent matter. There is evidence of loss of tissue and thickened tissue in the ulcer, also small sinuses can be traced into the substance of the tongue.

Ulceration of the mucous membrane over the more superficial nodules takes place which be seen as reddish, ulcerating sores or granulating wounds on the tongue. The parts are quite firm and hard to the touch. are no characteristic loose edges of epithelium as seen in

foot and mouth disease.

Similar lesions may be present on the hard palate. I would be very glad to receive from members any information with regard to lesions on the hard palate in this disease or any other affection of mouth.

Pustular Dermatitis in Cattle and Sheep. First, a condition in which simple isolated inflammatory pustules or boils appear in the integument of the muzzle in cattle and sheep. Second, a diffused inflammatory condition of the skin with the presence of multiple papular and pustular nodules over the skin of the nose and mouth, including lower lip and extending in an upward direction over the face, but in a less marked degree.

The coronets of all feet may be similarly affected when the condition extends to the knees and hocks, and the disease is often referred to in some districts as Mouth and Foot disease of Sheep, in contradistinction

to foot and mouth disease.

Definite boils are developed either singly or from the coalescence of small multiple pustules. crusted, fissured surface is formed from which exudes a purulent discharge. The mouth is painful to the touch, and the parts bleed readily. After removal of the scabs, a suppurating, ulcerating, granulating and hæmorrhagic surface is exposed to view. In some bad cases ulcerative lesions may be present on the mucous membrane of the lips, and occasionally on the tongue, when it is in apposition to an extensive suppurating and ulcerating lesion upon the border of the lips or at the angles of the mouth.

The lesions of the mucous membranes are no doubt secondary lesions. There are no lesions on the feet at seat of the foot-and-mouth disease, but a number of the

animals may be showing lameness.

So much for the conditions and lesions affecting the mouths met with in animals suspected of foot-andmouth disease. Time will only allow a passing reference to the conditions of the feet and udder, which as a rule do not give rise to the frequency of suspicion as in lesions affecting the mouth.

With regard to the disease of the feet met with on enquiry, foul in the feet of cattle, and foot rot in sheep

would be the most constant.

Foul in the feet often affects one animal and one foot, or a whole number of cattle may be affected in more than one foot, as I once witnessed in this city (Birmingham). Sometimes attention is drawn to the behaviour and lameness of the animal before any definite lesion is formed. The animal having shown persistent licking or "striking out," or both, of the one affected foot, to which the trouble has usually been confined.

In sheep, contagious foot rot calls for frequent attention, especially in outbreaks of a virulent type. Careful examination, however, generally settles the question at once. In foot rot the disease commences inside the digit, at the junction of the soft tissue with the horn, and works under and upward to the coronet; whereas in foot-and-mouth disease the lesions commence at the coronary band and the separation of horn and foot takes place from above downward. There is in foot rot the presence of the characteristic feetid odour.

presence of the characteristic fettid odour.

In foot rot the accompanying lameness is more often localised in one foot, at least for a time, whereas in foot-and-mouth disease of sheep the condition affects two or more feet simultaneously, the affected sheep moving like a "cat on hot bricks."

It is very necessary when dealing with marked and widespread lameness in sheep not to assume without a close examination that the lameness is due to foot rot, It is one of the conditions which gives rise to much

It is one of the conditions which gives rise to much anxiety to the patrolling veterinary officers during an outbreak of foot-and mouth disease. Needless to say, in some instances the two conditions may exist in the same animal, which adds to the importance of and difficulties in examination, especially when the shepherd has been recently paring and treating the feet for foot

There is also a painful condition met with affecting the feet of cattle, sheep, and pigs, which have been over-driven along hard roads, known as "travelling lame-ness." Large numbers of animals may be very lame. and if down, unwilling to rise. The solar surface and and if down, unwilling to rise. The solar surface and heels are much worn, and there may be evidence of laminitis. The coronets are swollen, hot, and painful. Exudation and breaking down of tissue around the coronary band may exist in a number of cases, with or without actual separation of the parts. Blood blisters also form around the coronets and fetlocks. In pigs there is frequently a small punctured wound or hole at the heel, from which escapes a little blood or blood-stained serum, or the small rupture may arise between the digits. There is little or no tendency for the claws the digits. There is little or no tendency for the claws to be cast, unless suppuration sets in, as is sometimes the case. Usually a speedy and marked improvement takes place, at least in the majority of affected animals.

At the same time, cases of acute travelling lameness among cattle may present an exceedingly suggestive clinical picture of foot-and-mouth disease when the lame-

clinical picture of foot and-mouth disease when the lameness is associated with marked salivation, and increased respiratory movements, due to enforced exertion and consequent distress to the animal; the symptoms being intensified during hot weather.

Pigs, especially, are often very distressed, not knowing which foot to place to the ground. They refuse food, and there is generally a rise in temperature. There is no true vesication and no evidence of contagion among contact susceptible animals. Naturally this condition gives rise to some anxiety on the part of the examiner for a day or so.

In pigs suffering from foot and mouth disease, the feet

In pigs suffering from foot and mouth disease, the feet lesions are very marked and characteristic, lameness is intense, several feet are affected, the animals refuse to intense, several feet are anecede, the animals refuse to move or to rise if down, early separation of the skin and hoof takes place as a result of vesication, and there is readiness to bleed around the coronets. The claws are frequently cast, and can be found lying about the pens.

Necrosis and gangrene of the feet or coronets of pigs with lameness may be met with independent of foot

and month disease.

There is also lameness due to injuries to the heels and picked up and embedded foreign bodies, as nails, gravel, cinders, etc., which may require foreible extraction; and the lameness due to inflammation around the inter-

digital gland in cattle and sheep.

Interdigital inflammatory lesions are sometimes present in recently dropped suzkling calves. The lesions are near the soft horn, often on one side only, showing a central haemorrhagic or intensely inflamed area.

Small fragments of grit and cinder have been found firmly embedded in the lesion, which is probably the exciting cause. Lameness is very marked. The dams are not affected in any way. There is usually a history

to be obtained of a gravel, rubbish, or cinder track, over which the animals pass often around gateways. Several calves may be affected on the same premises, and some, or part of them, may show inflammatory patches or actual abrasions in the mouth, as mentioned under Catarrhal stomatitis.

Catarrhal stomatitis.

The only lesions simulating foot-and-mouth which I have met with on the teats of cows are multiple small or pinhead vesicles of a contagious nature, unaccompanied by lesions in mouth or feet.

According to Fleming's Manual of Veterinaary Science and Police, "the eruption on the udder and the size of the vesicles (in foot-and-mouth disease) have led the inexperienced to mistake it for the pustule of Vaccinia or Cowpox, but a careful study of the two eruptions will quickly dispel the error." In foot-and-mouth disease the vesicles are less uniform in appearance vary in shape and size, and are mere blebs on an mouth disease the vesicles are less uniform in appearance, vary in shape and size, and are mere blebs on an uninflamed surface. After rupture there is very little to be seen. In Vaccinia, the vesicle arises upon the surface of a hard nodule and usual shows a central depression. The nodular lesions are surrounded by a red inflammatory zone. The vesicular stage is succeeded by the pustular stage which ruptures and dries, forming brown scabs on the surface of the nodules. The scab sloughs away, leaving a pale red or pink surface underneath, which later remains as the characteristic "cowpox" mark—a depressed area of white cicatricial tissue. Reference has only been made to the living animal, but the veterinarian's opinion and advice may be sought

but the veterinarian's opinion and advice may be sought but the veterinarian's opinion and advice may be sought after, or his suspicions aroused at post-mortem examination or during inspection of meat, by the presence of lesions of a doubtful nature, the difficulty being enhanced when only portions of the carcase are obtainable for examination. The remarks also apply to imported goods, including frozen tongues, feet, etc.

Now I think I have touched upon the commoner conditions met with when enoughing into the existence.

Now I think I have touched upon the commoner conditions met with when enquiring into the existence or non-existence of Foot-and Mouth disease.

In conclusion, I would add that things in the field are not always so easy as they appear to be, and that a good deal of responsibility is incumbent on veterinary surgeons which the public may fail to recognise, still less to appreciate. But with a little time and care a differential diagnosis can in many cases be made at the first examination; others will demand further observation and consequently reservation of our final opinion.

ential diagnosis can in many cases be made at the first examination; others will demand further observation and consequently reservation of our final opinion.

The reason for the necessary precaution is usually due to the presence of some vesicular lesion, or one or more single "open" or healing lesions, against which no special cause can be assigned at the time. There is also the possibility of more than one condition affecting the same animal at the same time. It is under such circumstances that the examiner is specially guided by the presence or absence of lesions in the feet or udder, the general health and condition of the animal affected, as well as the health of the contact susceptible animals.

There is usually no difficulty in giving an immediate positive opinion in a typical case of foot-and-mouth disease, as met with in this country. But experience will decide that a definite and final opinion is not always justified at once when the usual seats of foot-and-mouth disease are implicated, or the lesions present are of a vesicular or doubtful nature. You will no doubt agree with me that fatal results may attend a too hurried conclusion from indefinite lesions or insufficient evidence.

hurried conclusion from indefinite lesions or insufficient

Gentlemen: I thank you for this opportunity and privilege of speaking with you to-day, and also for the kind attention you have given me. I trust the paper is one in which you feel disposed to bring forward a good deal of valuable information to the discussion.

ARMY VETERINARY SERVICE

War Office, June 3.

The King has been graciously pleased, on the occasion of his Majesty's Birthday, to give directions for the following promotions in and appointments the Most Distinguished Order of Saint Michael and Saint George for services rendered in connection with the War. (Dated 3rd June, 1918):—

To be Additional Members of the Third Class, or Companions, of the said Most Distinguished Order:—

Temp. Lt.-Col. Herbert Watkins Pitchford; Lt.-Col-(temp. Col.) George Mostyn Williams; Maj. (temp Lt.-Col.) Frank Shelston Headon Baldrey, F.R.C.V.S., Ret. pay; Temp. Maj. Jos. Wm. Forster Brittlebank. CANADIAN A.V.C.—Lt.-Col. Charles McEachran.

Rewards for valuable services rendered in connection with the War. (Dated June 3rd):—

TO BE BREVET LIEUT.-COLONEL.

Maj. (temp. Lt.-Col.) E. Brown, D.S.O.

TO BE BREVET MAJOR.

Capt. (temp. Lt.-Col.) E. E. Bennett. Ret. list (late A.V. Dept.); Capt. (actg. Maj.) A. B. Mattinson, M.C., F.R.C.V.S., Spec. Res.; Capt. E. E. Seldon.

For services rendered in connection with Military Operations in France and Flanders. (Dated June 3):—
To be Additional Members of the Third Class, or Companions of the said Most Distinguished Order:—

Temp. Maj Fredk. Thomas George Hobday, F.R.C.V.S.

TO BE BREVET LIEUT. COLONEL.

Major (actg. Lieut.-Col.) W. H. Nicol; Major E. J. Wadley, D.S.O.

DISTINGUISHED SERVICE ORDER.

Temp. Capt. (temp. Maj.) F. C. Gavin; Maj. H. J. Holness; Maj. J. R. Steevenson.

Canadian A.V.C.—Maj. (temp. Lt.-Col.) A. B. Cutcliffe; Maj. (Lt.-Col.) C. E. Edgett; Maj. C. G. Saunders.

Australian A.V.C.—Maj. G. G. Heslop.

THE MILITARY CROSS.

Capt. !(temp. Maj.) T. Bone; Capt. (temp. Maj.) A. L. Horner; Capt. D. Keir; Temp. Capt. W. Lenton.

CANADIAN A.V.C.—Capt. M. P. Kennedy.

AUSTRALIAN A.V.C.—Capt. C. R. Seelenmeyer.

For distinguished service in connection with Military Operations in Egypt. (Dated 3rd June):—

THE DISTINGUISHED SERVICE ORDER.

Capt. (temp. Maj.) Harry Edwin Powell; Capt. (temp. Lt.-Col.) Percy James Simpson, F.R.C.V.S.; Capt. (actg. Maj.) Sidney Joseph Williams.

THE MILITARY CROSS.

Capt. Chas. Holland; Capt. (temp. Maj.) W. Stephenson Lornie; Temp. Capt. (actg. Maj.) R. Wallace Simpson.

For distinguished service in connection with Military Operations in Italy. (Dated 3rd June):—

THE MILITARY CROSS.

Temp. Capt. Robert Carr Allinson.

THE MERITORIOUS SERVICE MEDAL. Pte. (actg. Sergt.) A. J. Wise, SE/7334 (London).

For distinguished service in connection with Military Operations in Salonika. (Dated 3rd June):—

TO BE BREVET LIEUT,-COLONEL. Maj. P. J. Harris.

THE DISTINGUISHED SERVICE ORDER. Capt. (actg. Maj.) John Rae, Spec. Res.

THE MILITARY CROSS.
Temp. Capt. Ernest James Burndred; Capt. John Arthur Fearnside.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918:—

Jn. Aitken, Chester-le-Street	£1	1	0
Jn. Aitken, Chester-le-Street W. Awde, Major A.V.c.	1		0
J. L. Barling, Hereford	1	1	0
A. Bate. Ellesmere	1	1	0
A H Berry London	1	1	0
S. J. Blanchard, Salisbury	1	1	0
S. J. Blanchard, Salisbury W. H. Bradley, Dublin J. R. Carless, Shrewsbury A. J. Cattell, Brecon, S. Wales M. Clarkson, Richmond, Yorks. J. M. Currie, Lowestoft (1916-17-18)	1	1	0
J. R. Carless, Shrewsbury	1	1	0
A. J. Cattell, Brecon, S. Wales	1	1	0
M. Clarkson, Richmond, Yorks.	1		0
J. M. Currie, Lowestoft (1916-17-18)	3	3	0
	2	0	0
Hugh Fraser, Capt. A.v.c. G. H. Golding, Eastbourne	1	1	0
G. H. Golding, Eastbourne	1		0
Richard Gorman, Lieut, A.V.C.	1		0
T. H. Greatbatch. Stoke-on-Trent	1	1	0
R. W. Hall. Barry	1		0
Richard Gorman, Lieut. A.V.C. T. H. Greatbatch, Stoke-on-Trent R. W. Hall, Barry G. S. Harris, Hailsham Andrew Hart, Capt. A.V.C.	1		0
Andrew Hart, Capt. A.V.C.	1		0
H C Hewelson, Southborn	1		0
P. J. Howard, Ennis	i		0
P. J. Howard, Ennis W. F. Hughes, Denbigh	1		0
J. B. Kay, Shrewsbury	1		0
Lawrence J Kelly Cant. A.V.C.	1		0
R. G. J. Lake, Ashby-de-la- Zouch John Lawson, Timperley, Cheshire	1		0
John Lawson, Timperley, Cheshire	1		0
J. Loughran, Aughnaclov	1	1	0
Duncan MacGregor, Preston	1		0
J. Loughran, Aughnacloy Duncan MacGregor, Preston Prof. J. Macqueen, London R. W. M. Mettam, Lieut. A.V.C. J. W. Morrow, Coleraine Jno. G. Parr, Leicester Percival Perkins, Hastings	1	1	0
R. W. M. Mettam, Lieut, A.V.C.	1	1	0
J. W. Morrow, Coleraine	1	1	0
Ino G Parr. Leicester	1	1	0
Percival Perkins. Hastings	1	1	0
I W Pollock, Lockerbie	1	1	0
I. D. D. Sewell, Capt. A.V.C.	1	1	0
W. I. Flanagan, Capt. A.V.C.	1	1	0
H Gamble Lt. Col. A.V.C.	1	1	0
W F Shaw London	1	i	0
W K Stewart Hove	1	i	Ö
Percival Perkins, Hastings J. W. Pollock, Lockerbie L. D. D. Sewell, Capt. A.V.C. W. L. Flanagan, Capt. A.V.C. H. Gamble, LtCol. A.V.C. W. F. Shaw, London W. K. Stewart, Hove R. C. Tennant, Windsor Fredk Thompson, Morecambe	1	i	0
Fredk Thompson, Morecambe	1	1	0
G K Walker LtCol. A.V.C.	1	1	0
W Dawson Wallis Barnet	1	1	0
Fredk. Thompson, Morecambe G. K. Walker, LtCol. A.v.c. W. Dawson Wallis, Barnet Geo. T. Willows, Long Sutton J. Branford White, Hatfield Broad Oak	1	1	0
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M F White Petersfield	i	1	ŏ
Ing M Whyte Cant A.V.C.	i	i	o
M. E. White, Petersfield Jas. M. Whyte, Capt. A.v.c. Edw. C. Winter, Hon. Capt. A.v.c.	•		U
(1918-19-20)	3	3	0
John H Wright Major A V.C.	1	1	o
John H. Wright, Major A.V.C. Thos. P. Young, Leith	î	1	o
W. Jackson Young, Edinburgh	i	i	0
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£8	20	4	5

- STO

WILLIAM BUCKERIDGE, M.R.C.V.S., Reading.
Graduated, Lond: May, 1854.
Mr. Buckeridge died 1st June, aged 89.
CRANE.—On May 8th, Capt. James Robert (Bertie)
Crane, A.V.C., veterinary surgeon, Kegworth, eldest son of the late James Crane, Vine Cottage, Radford Road, aged 37.

Capt. WILLIAM Scott, A.V.C., of Shanganagh Grove, Killiney, Co. Dublin, owner of racehorses, died Nov. 11 last, left personal property of the value of £10,193.

CAPTAIN T. McHugh, Army Veterinary Corps, died on May 20, as the result of wounds received in an enemy air raid on a hospital on the previous night. Captain McHugh's only brother, Lieutenant D. McHugh, was given a given the M.C. for bravery at Messines.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

					Anth	Anthrax		ot- Iouth	Glan	ders.t	Parasitic Mange. ‡			Swine Fever.	
Period.			Out- breaks (a)	Ani- mals.	Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.		
GT. BRITAIN.			3.3 9.5		1		i						1		1
	Weel	k e	nded Ju	ne 1	4	4			1	4	90	194	2	38	10
Corresponding week in		{	1917 1916		4 5	4 5 5			2	3	30 37	56 89	5	73 109	28 461
			1915	•••	4	D			1	1	27	52	4	121	672
Total for 22 wee	eks, 1	918		•••	132	148			15	42	2662	5146	286	533	177
Corresponding period in		{	1917 1916	:::	272 280	308 325	1	24	13 21	23 62	1418 1369	2891 3192	373 173	1201 2156	499 6887
period in		(1915	•••	326	363			14	19	‡332	‡751	155	1940	8359

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—London 2, York, W. Riding 1
Board of Agriculture and Fisheries, June 4, 1918 Excluding outbreaks in army horses.

Lanark 1

IRELAND. Week ende	d May	25							Outbreaks 2	1	***	
Corresponding Week in	1015			:::	:::	:::	:::		1 2	2 1 8	3 4 5	14 42 35
Total for 21 weeks, 1918			1	1					67	164	7	27
Corresponding period in	${ 1917 \atop 1916 \atop 1915 }$		$\frac{2}{2}$	2 6 1			1 1	1 3	23 29 20	210 212 238	124 123 121	855 656 785

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, May 27, 1918.

IRELAND. Week ended	June 1				 l		Outbreaks 2			
Corresponding Week in	1917 1916 1915	1	3 	:::	 :::		 3	2 1 2	2 7 	14 32 4
Total for 22 weeks, 1918		1	1		 		69	164	7	27
Corresponding period in	$ \begin{cases} 1917 & \dots \\ 1916 & \dots \\ 1915 & \dots \end{cases} $	3 2 1	5 6 1	 	 1 1	1 3	23 29 23	212 213 240	126 130 121	869 689 789

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 3, 19
Norg.—The figures for the Current Year are approximate only.

* As diseased or Exposed to Infe Dublin, June 3, 1918

ETERINAR

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1562.

JUNE 15, 1918.

Vol. XXX.

ANÆSTHESIA IN PRACTICE.

The last meeting of the North Midland V.A. clinicians are carrying out independent observations upon anæsthetics. Two members who had practised intravenous anæsthesia by means of drugs other than chloroform related their experience. One had used Cannabis Indica, the other chloral hydrate. worth a further trial. Chloral hydrate is much better known in this connection; but its use has hitherto been strangely neglected in England.

Chloral hydrate has long been much used in surand, though it may be used alone, its administration is often followed up by an inhalation of chloroform. The usual methods of administration are stone of 14 lb, and oat straw at 1/- per stone. rectally, intravenously, and intraperitoneally. The technique, and are not free from danger; and permethod. Those members who possess copies of the Proceedings of the London International Veterinary Congress of 1914 will find much valuable information by Profs. Hendrickx, Vennerholm, and Udriski in the section dealing with anæsthetics. These form an excellent starting-point for the practitioner desirreading before trying it is more than advisable.

is that to ensure the minimum of risk its administration demands a skilled anæsthetist in addition to the operator. This is very often impossible in our work, and probably always will be; and this fact alone is a serious drawback to the use of chloroform in very many practices. There are many practitioners who are never able to obtain such assistance, and, if they use chloroform, cannot do it with the maximum of safety to their patients. It would be an advantage to us to have other agents for anesthesia free from this objection, and we should test any promising ones. Cannabis Indica seems to deserve further trial; and chloral hydrate is so much trusted on the Continent, and trusted in so many countries in which veterinary science stands high, that it certainly ought to be better known here.

GRASS DISEASE.

The reading of Mr. McLaren's article in the 25th afforded gratifying evidence that some English | May issue of The Record, and again, Mr. Harvey's remarks on June 1st, interested me very much, and recalled to my memory an epizootic of grass or stomach staggers in cows, in the summer of 1857. I was then an unqualified assistant to the late Joseph Carlisle (Carlisle & Bell), of Carlisle.

The months of May and June were extremely The first is a novelty as an intravenous anæsthetic; hot and dry; the complaint was very rife and ran but Mr. Hudson's experience suggests that it is its course both rapidly and fatally. The treatment worth a further trial. Chloral hydrate is much at that time was bleeding and big doses of purgative medicine - mainly Epsom salts-but with no beneficial result. The following year, 1858, was equally bad and the season, I think, hotter and drier; so was 1859, when the crops were both light gery in many European countries. Like morphia, and poor; the latter year was known as the droughty it is, strictly, a hypnotic rather than an anæsthetic; summer. In 1860, a quantity of Dutch hay of doubtful quality was brought into England, whilst home-grown seed grass hay was selling at 1/6 per

Although the malady was mostly seen in cows first of these is the oldest, and undoubtedly the simplest and safest. The other two require careful proved fatal; in fact, I don't remember a single death. As Mr. Harvey records, a good dose of haps this especially applies to the intravenous aloes, 5 to 6 drachms, generally set matters right in two or three days. In 1860, the year I qualified, I saw a few cases; but instead of bleeding and drenching with large doses of salts, I gave small concerning all three methods in the papers presented doses of sulphate of soda (4 to 5 oz.), and 1 to 2 drachms each of quinine and pulv. capsici, along with a few mixed seeds, in 3 pints of warm water every 6 hours, and an occasional pint of raw linseed ing to work with chloral hydrate; and some such oil. This had a much better and pleasing effect. But immediately a cow commenced to press her The great disadvantage of chloroform used alone head against the wall she was ordered to be slaughtered. Since that time, as stated by Mr. Harvey, in some seasons I neither see nor hear of the complaint; an occasional case crops up in a dry season, but nothing like the epizootic of 1857. Stomach

or grass staggers is an old complaint.
There is, I think, little doubt that when the weather is extremely hot and dry, some of the grasses run to seed prematurely-abort, as it wereand at the point of blooming there is certainly a chemical action takes place in the plant which in turn has a toxic action on some of the animals which consume it. The same thing holds good with rye corn. I remember that some years ago five cows got into a rye corn field just when the plant was in bloom. All the animals were taken very ill; three were slaughtered, two recovered. These cows had all the head and other toxic symp-

toms seen in grass staggers.

At the present time I have several cases on hand, although so far no head symptoms have been observed, yet the stomach and bowels are in a observed, yet the solution and the peristaltic action of the bowels completely paralysed, as it were, and medicine seems to have little or no effect.

Mr. McLaren's horse cases are both highly interesting and important, and his mode of prevention by running the mowing machine over the pastures and cutting off the bloom or seeds of the plant, to my mind, goes to confirm that there is a decided chemical or toxic element in the plants at their time of blooming. It is a well observed fact that horses, when first put into a grazing pasture, commence to nip off the tops of the longest grasses.

I trust these few remarks may interest some of

the readers, and that other men may add to our

information on this trouble.

HENRY THOMPSON, M.R.C.V.S.

Aspatria, June 10.

SARCOPTIC MANGE OF THE PIG.

By J. A. GRIFFITHS, M.R.C.V.S

Sarcoptic mange of the pig does not appear to have been very commonly recorded in English literature, although, according to Moussu, the disease was described as long ago as 1857. In recent years Berry† described an outbreak. The outbreak de-scribed below occurred in Norfolk in 1911, and, from observations made during the following two years, in the same county, I came to the conclusion that the disease is more prevalent than the lack of recorded

outbreaks would lead one to suppose.

The disease does not tend to spread very rapidly on the infected animals, but all in contacts soon show lesions. The condition is considered by many pig dealers and farmers to be connected in some way with the diet, at least I found that to be a very prevalent idea, and this seems to have been

encouraged by some practitioners.

Sarcoptic mange of the pig is due to infection by the parasite Sarcoptes scabiei var. suis. This parasite causes the lesions of the disease by burrowing in the skin. Owing to its greater size, it is usually much more easily demonstrated than the variety of sarcoptes found in the horse.

The disease is not necessarily confined to animals in poor condition or to places where overcrowding, dirt, and bad hygienic surroundings, certainly favour its spread; but it may occur, under the most satisfactory condition of hygiene, where an infected animal has been placed in contact with clean ani-mals. Owners do not often find it necessary to adopt any treatment, owing to the slow manner in which the lesions of the disease extend on the infected animals, and this with the non-recognition of the parasitic origin of the condition is probably the reason so few cases have been recorded

* Moussu & Dollar's "Diseases of Cattle, Sheep, Goats and Swine," 1905. † Berry "Outbreak of Sarcoptic Mange in the Pig." Journal of Comp. Path. and Therap. Vol. XIX, 1906.

Store pigs are most commonly infected owing to the greater opportunities for picking up infection at markets, and then having the necessary time for the lesions to become evident; but, naturally, once the disease is established on a farm all the pigs that come in contact with those diseased will most likely become infected.

Most of the cases I observed after the outbreak described below were seen during the course of duties as a C.C. Veterinary Inspector, when exam-ining animals brought to market. The lesions were always mild, a few red papules, commonly on the side of the abdomen, about the ears, or on the under surface of the body between the fore or hind limbs, with some formation of crusts over the

During June, 1911, an outbreak occurred on a farm, involving over seventy animals. Three of these—an old boar and two sows—were in a very advanced stage of the disease; they had been observed gradually getting worse since the early part of the pre-ceding winter. Sixteen other animals, including ceding winter. eight suckers belonging to one of the above sows, had extensive lesions involving the head, including the ears, the neck, and a large part of the trunk. In the remainder of the animals the lesions were mild in comparison to the above, and appeared most commonly to be situated on some part of the trunk, although a good many animals had lesions which were confined to the base of the ear, or about the neck or shoulders.

The earliest symptom of the disease is a reddening of the skin with a formation of small papules, accompanied by pruritus. The discharge of serous exudate, which is associated with the above conditions, dries in powdery, colourless crusts which give the part a light grey colour. The skin under the crusts, as the condition extends, is harsh and excoriated. Over the neck and the trunk it is wrinkled, indurated, and in the most advanced cases may be as much as an inch and a half thick. Fissures are formed, particularly where the natural folds of the skin occur, and large areas are rubbed raw by the animal in its efforts to relieve the pruritus. The animal's condition is pitiable; exhausted by the constant efforts to relieve the pruritus it becomes more and more emaciated.

About the head, round the base of the ears, and around the eyes, the proliferation of the epithelial cells over the papules, in the more advanced cases, has the appearance of numbers of small warts. In diagnosing the condition it is necessary to demonstrate the parasite, and to do this one has to scrape the skin fairly deeply to obtain suitable material for examination. The scrapings should be soaked in 10 per cent. caustic potash solution for at least half-an-hour, and then the material collected examined under the 2-3rds inch objective of the microscope. The parasite is easily recognised on account of its size, and can be demonstrated by slightly warming a test-tube containing scrapings from infected animals, when they can often be seen with the naked eye.

The advanced cases were treated first with a dressing containing 25 per cent. sulphur and 2 per

cent. oil of tar, with fish oil as a base, and the following day they were scrubbed with soap and hot water containing sodium carbonate, the sulphur dressing was afterwards applied three times, at intervals of two days, the bath repeated at the end of was nothing. He gave his milkers leave to go to a a week, and the sulphur dressings continued at weekly intervals. It took six to eight weeks before at night; and on looking round he found some these cases had recovered.

with the oil and sulphur dressing-three application the milk would have gone to London had not the tions at intervals of three days, and then two further dressings at an interval of one week. Only the first dressing was applied to the greater part of the purating quarter; sometimes it goes on the ground body, the later dressings being confined to the and sometimes into the bucket.

lesions and the area around.

The method of application of a dressing is of more importance than the actual selection of the tered with caked, dried fæces, as are also the caps prescription to be used. Most cases would be cured of the milkers, from which a detached crust freby two thorough applications of the dressing at an quently falls into the milk. In some yards the interval of a week-providing they are first given a cattle can be seen on cold days lying on the dung scrubbing to soften the crusts and to clear away all hills in the yard for warmth, and in wet weather I loose debris. It is only the old-standing cases that | have seen the cows nearly up to their knees and require dressings to be repeated every two days, owing to the dense, hard crusts that have formed.

As a matter of convenience in treatment the animals were isolated in three lots according to the degree of their lesions; the mild cases were turned were made to have the remaining animals regularly exercised. The premises were of modern construction, and this simplified the disinfecting process.

The floors, and all parts that could be used

by the animals were scrubbed with a solution of Jeyes' fluid, the walls being afterwards lime-

During the succeeding two years there was no further outbreak of the disease on this farm, particular care being taken to avoid introducing in-

fected animals.

The disease had evidently been introduced by the boar, and had spread through the sows to their offspring and thus infected the remaining animals, either by direct contact or, as appeared certain with one lot, by infection from straw used as bedding for infected animals.

DIRTY MILK.

cows are generally milked just as they are.

When inspecting a herd some years ago I saw a man milking a cow in this condition; there was about a gallon of milk in the bucket which was quite green: so also were the milker's hands. I asked him what was to become of the milk, and he

replied, "Going to London, of course." I said, "You ought to be made to drink it." He retorted, "So

did you."

I mentioned this to a farmer, and he said, that local Mop on condition they were home for milking carrots floating in the milk of one of the churns-The animals with localised lesions were treated one of the men had been sick in the bucket; and farmer detected it.

I have also seen men milking cows with a sup-

In winter the cows are often kept in filthy sheds, and their hind quarters and udders are often plashocks in dung: I generally wear a pair of field

boots when visiting dairies in winter.

I have one client who milks nearly 300 cows daily, who tries to get clean milk, and that is R. W. Hobbs & Sons, the celebrated shorthorn out in a meadow during the day, and arrangements breeders, of Kelmscot, Oxon. The men wear white overalls and trousers which are changed twice a week. The hair is clipped off the hind legs and udders of the cows with a clipping machine. Before being milked, a boy goes in front of the milkers with a cloth and bucket of water and cleans any udder requiring it. The milking pails are covered in at the tops, and the milk is passed out through a hole in the side; this keeps the dirt from falling in. The sheds have plenty of ventilation, and are built so that each cow cannot stain its neighbour's bed. The sheds are lighted by electricity, and water is laid on so that they can be washed by hose pipes.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

[NATIONAL V.M.A.—NORTHERN BRANCH.]

The quarterly meeting of the Midland Counties Veter-DIRTY MILK.

By J. H. Parker, M.R.C.v.s., Faringdon.

I am writing of an experience of 24 years in a big dairying district where most of the milk goes to London; where cows are grazed in the fields in summer, and fed in cowsheds in winter.

In wet weather it is not unusual to see, say, four or five cows out of a herd of 50 suffering from diarrhea, and their hind quarters and udders plastered with dung, from the lashing of their tails. These cows are generally milked just as they are.

The quarterly meeting of the Midland Counties Veterinary Medical Association was held at the Grand Hotel, Birmingham, on Tuesday, May 14, Mr. J. Malcolm, President, occupied the chair, and there were also present: Messrs. F. L. Gooch, Stamford; J. O. Powley, Sutton Coldfield; J. Martin, Wellington; J. J. Burchnall, Barrow-on-Soar; J. W. Conchie, Kidderminster; J. Young, E. O'Neill, S. M. Woodward, J. Whyte, Birmingham; J. B. O. Taylor, Stratford-on-Avon; W. H. Brooke, Ilandsworth; H. A. Turner, Derby; C. F. Parsons, Cheltenham; and the Hon. Sec., Mr. H. J. Dawes, West Bromwich. Messrs. A. Holman Berry, Board of Agriculture; and W. J. Cade, Bristel, were welcomed as visitors. were welcomed as visitors.

Apologies for unavoidable absence were announced

THE VICTORIA VETERINARY BENEVOLENT FUND.

The Hon. Sec. read the following letter from Mr. F. Bullock, Secretary of the Victoria Veterinary Benevolent

Bullock, Secretary of the Victoria Veterinary Benevoical Fund, dated April 13:—

"Dear Mr. Dawes,—At a meeting of the Council of the Fund held on the 4th inst., a letter was read from Mr. Gooch with reference to the action taken by the Midland Counties Veterinary Medical Association at its February meeting, when the sum of £3 was collected for the Fund and seven members undertook to take collecting boxes. I was instructed by the Council of the Fund to convey to the Members of the Midland Counties V.M.A. the best thanks of the Council for their generous sympathy with the needs of the Fund. I sincerely ous sympathy with the needs of the Fund. I sincerely hope that your action will cause other Societies to go and do likewise

and do likewise."

Mr. Gooch, in accordance with notice duly given, then moved: "That a sum of ten guineas be given by this Association as a donation to the Victoria Veterinary Benevolent Fund." His notice of motion, said Mr. Gooch, provided that the sum be "not less than ten guineas," and he moved that sum to test the feeling of the meeting. During the period of the war there had been a great strain on the resources of the Fund and further help was urgently needed. As a member of the Council, one who had to inquire into the many distressing cases that came before them, he could assure the profession that the object was deserving of their most generous support and sympathy.

it was recommended that members be invited to support

r. Howard's candidature."
On the motion of Mr. O'Neill, seconded by Mr. Brooke, the report was adopted, and the recommendations contained therein were accepted.

The late Mr. F. W. Barling.

The late Mr. F. W. Barling.

The Hon. Sec. said that since their last meeting an old and honoured member of the Association had passed away in the person of Mr. F. W. Barling, of Hereford, formerly of Ross. Ill-health had kept him away from the quarterly meetings in recent years, but he maintained his interest in the Association to the end. Mr. Barling came from an old family of veterinary surgeons, and one of his brothers was well known to Birmingham men as a Vice-Chancellor of the University. He moved that a letter of sympathy be sent to the relatives.

The PRESIDENT, in seconding, said the late Mr. Barling was one of the first veterinary surgeons he met when he first came to the Midlands, and the friendship that was then established had endured to the end.

The motion was carried in the usual way.

Some remarks on Foot and Mouth Disease, tro. By Mr. Holman Berry. (See pp. 497-504).

been a great strain on the resources of the Fund and further help was urgently needed. As a member of the Council, one who had to inquire into the many distressing cases that came before thems, he could assure the prosenous upport and sympathy.

The Hox. Sec. said that as one who knew something of the good work which the Fund was doing, he had much pleasure in seconding the motion.

The President, Mr. Martin and Mr. Burchnall spoke in hearty support, the latter, as Treasurer of the Association, remarking that ten guineas was a sum which they could well afford.

The motion was carried unanimously.

An Income Tax grievance.

Mr. Martin drew attention to the effects of the proposed increase in the income tax on veterinary surgeons in country districts who rent accommodation land as and quinct to their practices. He thought the Council of the R.C.V.S. would do well to look into the matter and bring what he regarded as an unnecessary hardship before the proper authorities. He suggested a resolution on the subject, but after some shord discussion he did not pursue the with Mr. Bullock, Secretary of the Royal College of Veterinary Surgeons.

Recommend that the next quarterly meeting be held at Birmingham. As to a subject for discussion, which at just prot to this meeting:

"The Council recommend that the next quarterly meeting be held at Birmingham. As to a subject for discussion, hein the subject of the council of the Association, which at just prot to this meeting:

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"The Hon. Sec. presented the report of the Council of the Association, which are just proper to this meeting:

"The Hon. Sec. presented the report of the Council of the Association on the member of the recent parts and the three was read from the Victoria Veterinary Bergion.

"A letter was read from the Victoria Veterinary Bergion of the

was not shown, whilst the live stock from Ireland was on its way to Birmingham, where no case of foot-and-

mouth disease was reported.

He remembered going to premises where a calf had died. He heard smacking and found well developed lesions on several animals, but a post-mortem examination showed that all that had been the matter with the dead calf was gastritis. With regard to what was called dirty mouth disease, he did not think that anyone who had seen it could war wall mistake it for fort and had seen it could very well mistake it for foot-and-mouth disease. Pustular dermatitis chiefly affected sheep, and he had found it common with American and Canadian sheep, a whole cargo sometimes being affected. He failed to see, either, how this could be mistaken for foot-and-mouth disease. The condition known as travelling disease, in which a whole cargo of cattle was lame, some salivating, and some with marked lesions on the foot, was very puzzling, more especially in pigs. As an inspector, he felt very much the responsibility of passing them, for if he made a mistake it would not only be serious for the country, but serious also for one's reputation as a veterinary surgeon. In conclusion, he expressed the opinion that Mr. Berry's paper was one that would

repay careful study at one's leisure.

Mr. Burchnall said, he, like Mr. Gooch, was struck with the large number of affections that could be confounded with foot-and-mouth disease. It was many years since he had the opportunity of seeing the disease, but he remembered in about the year 1880, when the country was full of it, and it was constantly recurring. He had seen some animals affected twice in the same year. His experience agreed with Mr. Berry's—that in cattle, milking animals seemed to be affected more that any other. He had seen a number of animals affected in the mouth and not in the feet, though probably the trouble was in the feet as well if they were carefully examined. There was one diagnostic symptom which he did not hear Mr. Berry mention, namely, the shaking of the hind foot. After smacking, he thought that was the most distinctive symptom. In sheep, he thought the disease affected the feet oftener than the mouth, causing a lot of suffering to the animal, and especially in the case of ewes about to lamb. He would like to say this much of the paper, that he did not remember a paper that dealt more completely with a subject than the one

Mr. MARTIN joined in the chorus of thanks to Mr. Berry for his most interesting paper. Personally, he had seen many cases of the diseases mentioned, but he had never had any difficulty in differentiating between them and foot-and-mouth disease. The cases of footand-mouth disease which he had seen were the most painful in all his experience. He would not have believed that animals could suffer so much pain; they were down for a fortnight at a time. They were cows; but when he had met with the disease in bullocks it was a comparatively trifling affair. Lameness in cattle coming from Ireland was not an uncommon experience, and dealers put it down to the animals standing on the spars

across the deck.

they had just listened to.

Mr. Brooke said that as he had never come across foot-and-mouth disease, his being a town practice, he could add nothing useful to the discussion, but he would like to offer one suggestion. That was that in a paper of the character of Mr. Berry's it would be a good thing if the writer concluded with a brief summary of his points. He hoped to study the paper when he saw it in black and white.

Mr. Parsons thought it was very desirable that the Board of Agriculture should give practitioners like himself a chance of seeing foot-and-mouth disease at first hand. Like the previous speaker, he had never come across it in practice.

personal contact with foot-and-mouth disease. He was delighted to hear Mr. Parsons suggest that the Board of Agriculture should offer facilities to veterinary surgeons to study the disease first hand. When an outbreak occurred some little time ago, several of his friends made application for an opportunity of visiting the cases, but they were not permitted to do so. He could not see what harm they would do, any more than allowing the Board's own inspectors to go on the scene, because a veterinary surgeon might be trusted to take as much precoution against spreading the disease as any inspector. The danger of confounding the disease with other ailments had been pointed out by Mr. Berry, which made it all the more desirable that the knowledge of the veterinary surgeon should be extended by studying the disease on the spot. He wished to thank Mr. Berry personally for his paper, and he was only sorry that it should have been read at the meeting in May, when so many country pracritioners found it difficult to get away. Yet it was the country member who would derive most benefit from such a paper. However, he hoped Mr. Berry would allow his paper to be printed, in which case it would be read not only by members of this Association, but by the profession at large, who would find it of great help in diagnosing foot and mouth disease whenever they came across it.

The President said a few points raised in the paper itself and in the discussion had interested him. was the possibility of the young veterinary surgeon visiting the scene of an outbreak and seeing the disease for himself. He had advocated it repeatedly, both at meetings of this Association and before various members of staff of the Board of Agriculture. It had long been his opinion that the veterinary profession ought to be allowed to study the disease whenever and wherever it occurred, because it was now comparatively rare, yet every practitioner ought to be in a position to make a correct diagnosis if a case should come within his purview. They would not mind obeying any restrictions the Board might think well to impose in order to prevent the spread of the disease, but otherwise the means of familiarising the veterinary surgeon with footand-mouth disease were very limited. He recalled the trouble at the Royal Show at Doncaster some few years ago, when the area restricted came to within about eight miles of the ground and there were some cattle in the show ground itself with lesions in the mouth. It was a very anxious time, and they decided that it was not foot-and-mouth disease, but the fact remained that veterinary practitioners could not have too much pracwhen it actually did exist. He pleaded again very urgently with his friends of the Board of Agriculture to give veterinary surgeons every possible facility for learning as much about the disease as they could. At the same time, the airing of that little grievance took nothing from their indebtedness to Mr. Berry for his most instructive address. He knew of no work on the subject that dealt with the disease quite so fully and so exhaustively as Mr. Berry's paper.

Mr. Berry, replying to the discussion, said he should

gladly avail himself of Mr. Gooch's invitation to visit the cases he had mentioned, as it was a subject in which he was taking a very keen interest and making enquiries into it. Several speakers had expressed surprise at the number of diseases which could be mistaken for footand-mouth disease, and some had gone so far as to suggest that mistakes of that kind were scarcely possible. He could assure them that such mistakes had actually been made, and his warnings were based upon actual experience. With regard to the temperature of 108, the highest temperatures were generally in animals showing no other symptoms of trouble. As to the possibility of The Hon. Sec. said that he was another of that great army of practitioners who had never been brought into persuade the Board to relax their rule in regard to it, he should be very pleased to give the profession all the information he could. Why he laid stress on the procedure to be adopted in case of a suspected outbreak was that many people were anxious to do everything that was necessary, but in the absence of method they often forgot to attend to some very essential detail. A strict and regular method of procedure was the only way of preventing serious omissions being made.

on the motion of procedure was the only way of preventing serious omissions being made.

On the motion of the President, seconded by Mr. Burchnall, a hearty vote of thanks was accorded Mr. Berry for his paper, with a request, to which he readily yielded, that he would allow it to be printed in pamphlet form and circulated among the members.

CARCINOMA IN THE HORSE.

Mr. Woodward showed the mesentery of a seven-year-old roan cart horse, which showed multiple tumours. Sections had been examined by Sir John M'Fadyean, who found them to have the histology of carcinoma. The horse had been worked within twelve days of his death, was of good appearance and well up in flesh. Five days before death, dropsy of the sheath, hind legs and abdomen occurred. On post-mortem examination, about seven gallons of dropsical fluid escaped from the abdomen. The whole of the abdominal viscera, from a photograph produced, presented the appearance usually met with in advanced tuberculosis in cattle (grapes) due to the presence of hundreds of tumours, varying in size from a pea to a hen's egg.

At the close of the meeting the members took tea together.

H. J. DAWES, F.R.C.V.S., Hon. Sec.

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£852 15 5	Previously acknowledged	820	4	5
		£852	15	5

THE TREATMENT OF INFECTED WOUNDS. By A. CARREL and G. DEHELLY. Translation by HERBERT CHILD, Capt. R.A.M.C. (T.F.). With Introduction by Sir Anthony A. BOWLEY, K.C.M.G., K.C.V.O., F.R.C.S. Second Edition. Pp. × + 265, including index, with 114 illustrations and figures in the text. Price 6/- net. (Baillière, Tindall, & Cox., 8 Henrietta Street, Covent Garden, London, W.C.) BOWLBY, K.C.M.G., K.C.V.O., F.R.C.S. Second Edition. Pp. × + 265, including index, with 114 illustrations and figures in the text. Price 6/- net. (Baillière, Tindall, & Cox, 8 Henrietta Street, Covent Garden, London, W.C.) This work, of which this issue is the second edition, is a careful and thorough exposition of the method of wound treatment associated with the name of one of its authors. Its arrangement may be briefly summarised. After a few introductory pages, a long first chapter is devoted to the general principles of the technique. This includes an account of the experimental development, both chemical and bacteriological, of the treatment, with a short, summarised explanation of the principles of its application. Chapter II, a very necessary one, deals with the technique of the manufacture of Dakin's Solution, explains the many possibilities of error in the process, and emphasises the necessity for avoiding them. Chapter III broadly surveys the technique of the mechanical, chemical, and surgical cleansing of wounds; and Chapter IV is devoted especially to the technique of chemical sterilisation. In this the various and complicated apparatus used by Carrel and his colleagues, and the methods of applying them, are carefully described and illustrated; and the chapter is perhaps the most valuable in the book to the practising surgeon. The next two chapters deal respectively with the clinical and bacteriological examination of wounds and the closure of wounds; and the final chapter, a long one, gives an account of the results which have been obtained from the treatment, and includes detailed histories and illustrations of numerous cases. The success of the method, when properly carried out, appears to have been most remarkable.

The book is excellently written, and will be of great value to many surgeons. Carrel's method demands such extreme attention to detail, and such elaboration of apparatus to suit individual cases, that even an experienced surgeon requires several weeks to learn to apply it properly,

advisable.

On wider grounds, the book may be commended to every practitioner. There is much matter of general surgical interest in its pages, and some, such as the teaching regarding the alteration of antiseptics when brought into contact with the tissues, which may open fresh ground for many readers. Its perusal will probably widen the reader's surgical conceptions and will certainly stimulate thought; and even a practitioner who has no chance of testing the method it advocates will derive benefit from it.

W. R. C.

THANKS TO ELECTORS.

To the Electors of Council.

I most earnestly desire to thank the 533 members of my profession who so kindly recorded their votes for me at the last election, and again returned me as a member of Council.—I am, Gentlemen,

Yours sincerely, W. PACKMAN. The Wylde, Bury, Lancs. 11th June.

Editor, "The Veterinary Record."

Sir,-Please permit me, through your columns, to express my thanks to those gentlemen who so kindly supported my candidature in the recent election.

Yours faithfully, JOHN B. TUTT. 55 Southgate Street, Winchester. June 7.

ARMY VETERINARY SERVICE

June 7.

The King has been graciously pleased, on the occasion of his Majesty's Birthday, to give orders for the following promotions in, and appointments to, the Most Excellent Order of the British Empire (dated June 3), for services in connexion with the War.

OFFICERS O.B.E.

Maj. Edmund Day, Embarkation Vety. Officer, South-

Maj. Edward Clive Webb, F.R.C.V.S., for services with the B.E.F., France.

India.-Albert Ernest Branch. Esq., Chief Veterinary Inspector.

Geo. Ernest Francy, Esq., Personal Sec. to the Sec. of State for India during his tour in India. Oct. 1917 to May, 1918. [Mr. Franey has for many years reported the Council meetings R.C.V.S., for *The V. Record*, also the meetings of the Central and National Associations, and is known to not a few of our members. who, we feel sure, will join us in congratulation and good wishes on the occasion.]

MEMBERS O.B.E.

William Samuel King, Esq., Civil Veterinary Surgeon, Army Veterinary Service.

Capt. Francis Colin Minett, Bacteriologist, A.V.C.

Capt. John Percival Spanton, British Remount Commn. Canada.

David Warnock, Esq., British Rmnt. Commn., Canada. Maj. Thomas Dunlop Young, for services with the B.E.F. in France.

War Office, May 30. The following dispatch has been received by the Secretary of State for War :-

Headquarters, April 18, 1918. My Lord,-I have the honour to submit a list of names of those officers serving, or who have served under my command whose distinguished and gallant services and devotion to duty I consider deserving of special mention.—I have the honour to be, my Lord, Your obedient Servant,

HERBERT PLUMER, Gen.

STAFF.—A.V.C.

Maj. (actg. Lt.-Col.) R. C. Cochrane, F.R.C.V.S.; Capt. (actg. Maj.) J. J. Hilliard; Maj. (actg. Lt.-Col.) H. S. Mosley, D.S.O.; Maj. (actg. Lt.-Col. S. F. G. Pallin, D.S.O., F.R.C.V.S.; Temp. Capt. (actg. Maj.) C. W. B.

Temp. Capt. P. A. Carroll; Temp. Capt. R. Clunas; Temp. Capt. G. Green; Temp. Capt. W. Hill; Temp. Capt. R. Scott.

War Office, June 11. The following dispatch has been received by the Secretary of State for War :-

General Headquarters, Salonika, March 25, 1918. My Lord,—I have the honour to submit herewith a list of the Officers, whose services I desire to bring to your Lordship's notice for gallant conduct and distinguished services rendered during the period from September 21, 1917, to February 28, 1918.

I have the honour to be, my Lord, your Lordship's most obedient Servant, G. F. MILNE, Lt. Gen.

STAFF-Capt. (actg. Maj.) C A. Murray.

Capt. T. A. Dobie (S.R.); Temp. Capt. A. F. Mitchell (S.R.); Capt. T. M. Mitchell (S.R.); Capt. E. J. Mulligan (S.R.); Temp. Capt. M. J. Neely; Capt. E. S. W. Peatt; Capt. (actg. Maj.) J. Rae (S.R.); Temp. Capt. W. A. Shearer; Temp. Capt. A. E. Willett.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, May 30.

REGULAR FORCES. ARMY VETERINARY CORPS.

Maj. W. Jowett, F.R.C.V.S., from S. Africa A.V.C., to be temp. Maj. (Apl. 9, with sen. from Dec. 1, 1914) (substituted for the notification in the Gazette of Apl. 27).

To be temp. Lt.:—S. Holmes (May 9).

May 31. Temp. Lts. to be temp. Cap's.:—H. S. A. Dunn, J. W. Hayes (May 15).

Late temp. Lt. to be temp. Capt.: - H. Walpole (May 1).

Temp. Lt. to be temp. Capt.: -W. H. Anderson (May 21). June 4.

Vety. Maj J. A. Meredith, F.R.C.V.S., ret. pay (Res. of Off.) relinquishes the temp. rank of Lt.-Col. on ceasing to be empld. as A.D.V.S., and is granted the hon. rank of Lt.-Col. (Apl. 16) (substituted for notification in the Gazette of Apl. 19).

Capt. F. B. Gresham (T.F.) to be actg. Maj. whilst comdg. Vety. Hospl. (Feb. 16).

Temp. Lt. to be temp. Capt. :- E. Little (May 1).

To be temp. Capt.: -Capt. M. Cunningham, from S Afr. Vety. Corps, with sen. from Oct. 10, 1914.
Temp. Lt. to be temp. Capt. P. Thexton (May 24).

Temp. Lt. to be temp. Capt.: -- T. A. Connolly (May 25). To be temp. Lt.: O. McQuirk (May 18).

Temp. Maj. (actg. Lt.-Col.) C. E. Edgett, Can. A.V.C., to be A.D.V.S., and to retain his actg. rank while so empld. on relinquishing the appt. of D.A.D.V.S., and ceases to be graded for purposes of pay as D.A.D. of Ord. Servs. (Apl. 14).

TERRITORIAL FORCE, ARMY VETERINARY CORPS. June 4.

Capt. (actg. Maj.) J. F. Rankin to be actg. Maj. (Sept. 9, 1916) (substituted for that which appeared in the Gazette of Apl. 12).

June 7. Lt.-Col. A. Porritt relinquishes his commn. on acct. of ill-health, with permission to retain his rank and to wear the prescribed uniform (June 8).

CANADIAN A.V.C.

June. 5. To be temp. Lt.:—Tpr. O. V. Gunning, 2147637 (Apl. 29). Temp. Capts. to be temp. Majs.:—F. Walsh (Jan. 19); F. A. Daligneault (Apl. 5).

The following casualties are reported :-DIED OF WOUNDS—Lt. and Qrmr. T. McHugh. WOUNDED—Capt. F. E. Heath.

Unsound Stallions.

The following sentences are from a letter which appeared in *The Scottish Farmer*:—

appeared in The Scottish Farmer:—

"There has been 'much 'criticism of Mr. Prothero's Bill regarding unsound stallions. It is wonderful what some men will propose in the interests of self as against the welfare of the breed of horses and the benefits of breeders at large. A breeder found out tampering with a pedigree generally gets short shrift if the case is proved against him, but I question very much if his action does as much damage to the breed of horses as travelling stallions which are suffering from hereditary disease. One does not need to be a Solomon to be aware that there are strains of horses fully pedigreed, and prize winners at that, that the average horse breeder is not very anxious to invest in. In fact, they are like the story of the farmer who told the ploughman he could give him a character, but he would be better without it.

That many of the mares are unsound I grant, but a mare can produce only one foal in a season, and a stallion can produce anything from 50 to 100. Surely when

so many laws and regulations are laid down interfering with the average farmer's liberty of action, a Bill which will do him incalculable good should be supported.

There is one disease in particular, known as shivering whether arising from sub-breeding or other causes I cannot say—but it is getting more prevalent among highly-bred horses than formerly. No stallion suffering from shivering should be allowed to remain entire."

Anatomical nomenclature.

The Anatomical Society of Great Britain and Ireland, at a meeting at King's College, London, in March last received and unanimously adopted a report by its Committee on Nomenclature. It resolved, without a dissentient vote, that the following paragraph of the report should be circulated among the several corporations and other bodies interested in the progress of medical education:

education:—
"The Committee, after consideration of the matter, unanimously reports that it sees no reason for departing from the use of the old nomenclature as the recognised medium of description for employment in anatomical text-books and departments, or by medical men in general; on the other hand, it thinks that there are very good reasons to be urged against the adoption of any other nomenclature for this purpose."

Personal.

Cpl. W. L. PAUER, son of Mr. Wm. Pauer, M.R.C.V.S., Blackwater, Hants, has won a bar tt his Military Medal and has been made a King's Sergeant. He also holds the Médallè Militaire. Sergt. Pauer was until recently a sniper in the Munster Fusiliers, and has been three times wounded.

CONNING-GRESSWELL. On 5th June, at St. Peter's Church, Piccadilly, by licence, by the Vicar, Rev. F. Relton, John Hubert Loaring Conning, eldest son of Mrs. De Hem, to Queenie Evelyn Brodie Gresswell, youngest daughter of Capt. J. B. Gresswell, F.R.O.V.S., R.G.A., of Louth.

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

		Anthrax		Foot- and-Mouth Disease.		Glanders.†		Mange. I			Swine Fever.			
Period.				Out- breaks (a)		Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh- tered.
GT. BRITAIN.	Week e	nded Ju	ne 8	3	4			1	1	106	153	1	31	14
Corresponding week in	{	1917 1916 1915		8 11 8	8 21 8			2 1	1 2 1	49 33 20	84 77 35	2	54 122 126	28 295 683
Total for 23 week	ks, 1918		•••	135	152			16	43	2769	5300	286	564	191
Corresponding period in	{	1917 1916 1915		291	316 346 371	1	24	13 23 15	24 64 20	1467 1402 ‡352	2975 3269 ‡786	173	1255 2278 1966	527 7182 9022

[†] The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:— Hants 1
Board of Agriculture and Fisheries, June 11, 1918 Excluding outbreaks in army horses.

THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1563

JUNE 22, 1918.

VOL. XXX.

UNRECOGNISED DISEASES.

Few English practitioners are familiar with sarcoptic mange in the pig; and Mr. J. A. Griffiths' article upon it last week is therefore of much interest. His description of the disease is very similar to those given by observers on the Continent, where it has been recognised more frequently than here. Authorities differ regarding its frequence. Neumann states that it appears to be rare; Hutyra and Marek describe it as common, and add that it is very frequent in pigs of the Hungarian breeds. The latter authors also state that especially severe symptoms are seen in pigs with thick curly hair, and that "now and again it has been noticed that pigs of the English breeds living with these have not been affected." There seems, therefore, to be some reason for supposing that different breeds of pigs vary in their susceptibility to the disease. There is also some conflict of opinion as to the facility of microscopic diagnosis. The parasite, being the largest variety of the Sarcoptes scabiei, is easily recognised when seen; but deep scraping is often necessary to find it. Hutyra and Marek state that its discovery is usually easy; Neumann, and also Friedberger and Fröhner, say that it is often difficult. It is generally agreed that the disease, though serious when it has invaded a large portion of the body, is slow in its course; and this increases the possibility that it may not uncommonly exist unrecognised in England.

Very possibly Mr. Griffiths is right in his view that the disease is more prevalent in this country than is generally supposed. If that is so it follows that some veterinary surgeons, through not recognising its nature, miss chances of being useful to their clients. Whether or not that is the case as regards this particular disease, there is no doubt that it is so with respect to many others. There are numerous diseases of farm stock which are not usually very important, and which many veterinary surgeons, on that account, are accustomed to treat very casually. The result is that we lose opportunities of usefulness which may not be important in single cases, but which certainly are so in their aggregate. A more thorough study of the minor diseases of farm stock would benefit practitioners and owners alike, and is one of the first duties of country members at present. It is a duty which many veterinary surgeons have always been inclined to neglect; and the increased value of stock now renders it more important to both the profession and the nation than it has been hitherto.

FRACTURE OF THE OS PEDIS.

As far as the writer is aware, not a great number of cases of fracture of this bone have been placed on record.

This is not to be wondered at when one considers the sheltered position of the bone; its bond of union between the sensitive and the insensitive laminæ, together with the admirable protection afforded by the hoof, to which may be added the extremely condensed texture of its histological structure.

Most practitioners are acquainted with sequestra on the solar surface which sometimes arise through puncture by a nail, etc., but this injury is of minor importance as compared with the condition now under consideration.

The subject was a light draught army horse free from lameness at the time of the accident, which occurred whilst the animal was at exercise, without any obvious mechanical cause. Lameness in the off hind limb of sudden development without any indication of the seat of the injury. After a week's rest there was no improvement, and as the lameness was severe the horse was destroyed.

The foot was examined, and after boiling it revealed a vertical fracture through the whole substance of the bone, almost through the centre of the pyramidal process, in which situation the bone is the strongest, and is afforded a maximum degree of protection by the hoof. In all other respects the bone is quite normal—or apparently so. Had the fracture been through one of the wings the case would have lost some of its interest.

There are several points of interest in the case—the apparently simple cause; its occurrence in the hind limb; the position of the fracture, and the absence of any diagnostic signs.

For the specimens and history of the case I am indebted to Maj. Seldon and Capt. Quiggin, A.v.c.

A short time since a case was related to me in which both pedal bones were fractured, but in that case the limbs were fixed in a culvert, and the fractures were the result of severe struggling.

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FRANK T. BARTON, Capt. A.V.C. (T.F.)

Mr. Henry A. James, Hurstmonceux Place, Sussex, writes:—Will you let me warn farmers not to use the so-called linseed cake, as now supplied, without passing it through a sieve? Out of half a bushel I took yesterday 141 nails from one to two inches long and of various sorts. The old string, bits of leather, cotton waste, weighed about 2 lb. to the cwt. of the cake. I fear I may lose at least one good dairy cow.

ABSTRACTS FROM FOREIGN JOURNALS.

METHODS OF ANÆSTHESIA

H. D. Bergman has published an article upon anæthesia in the Journal of the American Veterinary Medical Association.

In the large animals he has had the best results from chloroform, employing the drop method of administration, and obtaining anæsthesia in from 12 to 15 minutes

In dogs, he administers from one to two grains of morphia hypodermically about twenty minutes before the operation. A few inhalations of chloroform then place the animal in a condition of comdition of complete anæthesia. The dog generally recovers from the narcosis in from four to five

In pigs, he employs rectal injections of chloral hydrate. Sometimes he follows these with some inhalations of chloroform, but not usually. The dose of chloral hydrate is from 11 to 2 drachms to every 50 pounds of body weight. On account of its irritant properties, the author advises dissolving the chloral in four ounces of some fixed oil or of glycerine. Even where this does not give complete anæsthesia, the results are very satisfactory. Twenty to thirty minutes should elapse before commencing the operation.

With regard to local anæsthetics, cocaine, stov aine, and alypin satisfy most of the requirements of veterinary surgery. In 1916 alypin was employed on a large scale; and it appears to possess all the advantages of cocaine without its drawbacks. It is generally employed in regional surgery in a 5% solution. Its action is noticed in about five minutes, and continues as long as that of cocaine. In using it the author has not observed either symptoms of intoxication, or pain, or necrosis of the skin at the site of injection.

THE TREATMENT OF SAND COLIC.

Berteli records the following case. He was called to a mule of eight years of age, and, immediately recognising the gravity of the case almost despaired of saving the animal. The mule showed dull colicky pains, and appeared to be making efforts to urinate. The nostrils were much dilated, and the eyes were fixed. The animal was groaning rather deeply, and also showing rather pronounced movements of the flanks. Rectal exploration revealed, at the entrance to the pelvis and in front of the

at the entrance to the pelvis and in front of the pubis, a soft mass in which small grains could be detected. This led the author to diagnose sand colic.

The mule was first removed to a sufficiently roomy stable with a good bed. This done, 400 grammes of sodium sulphate and 12 grammes of potassium nitrate, dissolved in two litres of infusion of mallows and mixed with 500 grammes of common oil, were administered. Enemas of seven litres of salted water, repeated every twenty minutes, were also given. The author also ordered rubbing of the extremities and flanks with turpentine, vinegar, and camphorated alcohol, and that the mule should afterwards be walked. When an salte they could not do better than ask nim to act they could not do better than ask nim to act they could not do better than ask nim to act they could not do better than ask nim to act they could not do better than ask nim to act they could not do better than ask nim to act they could not do better than ask nim to act they could not do better than ask nim to act they could not do better than ask nim to act they could not do better than ask nim to act they could not do lot they can.

Mr. ALMOND heartily seconded the motion, saying that there were always disadvantages in making changes when a gentleman had obtained experience of the work and took such an interest in it af Mr. Slocock did. The resolution having been carried unanimously, the President thanked the members for the compliment that had been conferred upon him, but hoped that they would be able to find a willing worker next year to take when a gentleman had obtained experience of the work and took such an interest in it af Mr. Slocock did. The resolution having been carried unanimously, the President thanked the members for the compliment that had been conferred upon him, but hoped that they would be able to find a willing worker next year.

hour had passed, ten centigrammes of nitrate of pilocarpine were injected; and, fifteen minutes later, the expulsion of sand began. This was about 4 p.m. At 11 p.m. the author again saw the mule, and administered a litre of infusion of chamomile with half a pint of strong brandy. The animal was then somewhat better, but had not ceased to expel sand

At five the next morning, the author was called up with the report that the mule was worse. Attending speedily, he found the condition somewhat aggravated, and noticed very acute pains accompanied by great expulsive efforts, by means of which a fair quantity of sand was being expelled. Enemas of infusion of mallows and common oil were given, and also a hypodermic injection consisting of five centigrammes of sulphate of eserin, three centigrammes of hydrobromide of arecolin, and ten centigrammes of nitrate of pilocarpine. This in a little time brought about the almost complete evacuation of the sand.

At 2 p.m. the animal showed a satisfactory improvement. A laxative and stimulant system of diet and medication was then adopted for a few days. The mule recovered well, though for a period of six days grains of sand could still be observed in the fæces. On the seventeenth day, the mule was

in perfect health.

The treatment described above has given the author very good results in two other cases of sand colic. He has tried it, also, in colic due to overloading of the alimentary canal; but in these latter coses it has not answered so well as in sand colic.— (Revista de Higiene y Sanidad Pecuarias).

VICTORIA VETERINARY BENEVOLENT FUND.

Immediately following the annual meeting of the Royal College of Veterinary Surgeons, the annual meeting of the Victoria Veterinary Benevolent Fund was held. Mr. SIDNEY H. SLOCOCK, President, occupied the chair, and nearly all the members were present who attended the annual meeting of the College.

The minutes of the last annual meeting were read and confirmed.

ELECTION OF OFFICERS.

Sir Stewart Stockman, in proposing the re-election of the President, Mr. Sidney H. Slocock, said that all those connected with the Benevolent Fund knew how energetically Mr. Slocock carried out his duties, and he was sure they could not do better than ask him to occupy the chair for another year.

Honorary Auditors.. On the motion of the President, seconded by Mr. West, the Honorary Auditors, Messrs. Woodhouse & Wilkinson, were unanimously reelected, and thanked for their services.

ANNUAL REPORT AND STATEMENT OF ACCOUNTS.

The PRESIDENT, in presenting the Annual Report and Statement of Accounts, thought the members would agree that they were of a very satisfactory character. The year had been a good one, thanks to the energy of the Hon. Secretaries and the Hon. Treasurer, who had collected a great deal of money, so that the Executive had been in a position to distribute increased relief. Some very sad cases had been brought forward. He particularly drew attention to the paragraph in the report stating that the Council considered that, in view of the present high cost of living, some increase should be made in the amount of relief granted, but that naturally depended upon the income at the Council's

On the motion of Mr. F. L. Gooch, seconded by Mr. Samson, the report and statement of accounts were

unanimously adopted.

Election of five members to serve on the Council of the Fund. On the motion of Mr. Thatcher, seconded by Mr. Garnett, Messrs. G. A. Banham, F. L. Gooch, J. McI. McCall, A. Spieer, and W. J. Young were elected to serve on the Council.

The meeting concluded with a hearty vote of thanks to the President for his services, not only in the chair but during the past year, moved by Mr. West, and seconded by Mr. Samson.

P. J. L. KELLAND, Hon Secs. FRED BULLOCK,

INCOME AND EXPENDITURE ACCOUNT For the Year ended 31st Dec. 1917.

Expenditure.	£	s.	d.	£	s.	d.
To Relief granted	100			448	10	2
Subscription to Charity						-
Organisation Society				1	1	0
Administrative expenses:						
Printing and Stationery	15	15	6			
Postage and Petty Cash	16	10	0			
Clerical assistance						
(Mr. Shipley's Clerk)	8	13	4			
Transfer of Stocks	3	12	8			
Collecting boxes	5	3	9			
Miscellaneous expenses	6	8	3			
	_		_	56	3	6
Excess of income over expend	iture			28	5	4
				£534	0	0
Income.				£	s.	d.
By Subscriptions				396	6	6
Interest on Dividends				117	19	6
Income Tax returned				19	14	C
				£534	0	C
BALANCE SH	EET.					
				£	s.	d.
To Capital Account, 31st Dec., 1	916			3913	8	2
ADD: Donations, 1917				135	13	€
	049	1	8			
Income and Expenditure A/c,						
31st Dec., 1916				161	8	10
Add: Excess as per Account				28	5	4
그리고 아이지 않아 그 그렇게 되는데 하게 되는 그 하다 하다고 보이고 이렇게 되었다.	189	14	2			
Subscriptions, 1918, in advance	е			2	12	(
				£4241	8	4

	£	S.	d.
By Investments at Cost:—		~.	
£3616 12s. 8d. 2½% Consol. Stock	3045	14	7
£550 Norwich Corpn. Redeemable			
3 % Stock	532	3	6
£300 18s. 10d. W. Australian Govt.			
3½ % Stock, 1920–1935	270	0	0
£250 Union of S. Africa 4½ % Stock			
1920-1925	246	12	3
£100 National War Bond, 1927	100	0	0
	4194	10	4
Balance at Bank	46	18	0
	£4241	8	4

We have examined the above Account and Balance Sheet with the books and vouchers, and certify them to be correct. The investments have been verified as registered in the names of the Trustees.

WOODHOUSE & WILKINSON, 28 Queen St., E.C. 4. Chartered Accountants. 4th April, 1918.

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918 :-

A. Baker, Bansha, Tipperary	£1	1	0	
E. J. Catmull, Brixton Hill, S.W.	1	1	0	
E. R. Edwards, Bd. of Agric 1916-17-18	3	3	0	
A. B. Forsyth, Cannock	1	1	0	
S. E. Holmes, Major A.V.C.	1	1	0	
A. McCarmick, Leeds	1	1	0	
George Newsom, Wicklow	1	1	0	
James Peddie, Auchterhouse	1	1	0	
R. Porteous, Major A.v.c.	1	1	0	
J. G. Reynard, Perth	1	1	0	
Andrew Spreull, Major A.v.c., D.s.o.	1	1	0	
Previously acknowledged	852	15	5	
£	866	8	5	

ARMY VETERINARY SERVICE

War Office, June 14.

The following dispatch has been received by the Secretary of State for War :-

General Headquarters, Egyptian Expeditionary Force April 3, 1918.

My Lord,-I have the honour to forward herewith a list of Officers serving, or who have served under my command whose distinguished and gallant services and devotion to duty I consider deserving of special mention.

I have the honour to be, my Lord,
Your Lordship's most obedient Servant,
E. H. H. Allenby, General.

STAFF.—A.V.C.

Capt. (actg. Maj.) H. E. Powell; Capt. (actg. Lt.-Col.) P. J. Simpson, F.R.C.V.S.; Capt. and Bt. Maj. G. E. Tillyard; Capt. (temp. Maj.) M. P. Walsh; Capt. (temp. Maj.) S. J. Williams.

Australian A.V.C.—Maj. J. Kendall.

ARMY VETERINARY CORPS.

Temp. Capt. (actg. Maj.) G. W. Dunkin; Temp. Maj. A. de R. Gordon, attd. Camel Trans. Corps; Capt. J. P. Heath; Temp. Capt. R. Jones; Temp. Capt. J. MacIlvenna; Tem. Capt. J. H. B. Martin; Temp. Capt. H. W. Percy; Qrmr. and Hon. Lt. O. Preston; Temp. Capt. W. Watt; Temp. Capt. W. B. MacFadzan (S.R.)

Australian A.V.C.—Capt. S. A. Mountjoy.

Extracts from London Gazette,

WAR OFFICE, WHITEHALL, June 13.

REGULAR FORCES. ARMY VETERINARY CORPS. Temp. Capt. J. D. Whitehead, F.R.C.V.S., relinquishes the Temp. Capt. J. D. Whitehead, F.E.C.V.S., reiniquisnes the actg. rank of Maj. (Apl. 15).
Temp. Hon. Capts. to be temp. Capts.:—J. D. Knowles, E. A. Ryan (May 13).
To be temp. Lt.:—R. H. Oddy (May 28).

Temp. Lt. J. S. Kelleher resigns his commn. (June 16).

Temp. Lt. to be temp. Capt. :—T. L. Vaisey (June 1).
To be temp. Lts. :—P. J. MacCormack, F. H. Sanderson (June 1).

The following casualties are reported :— Wounded—Capt. T. T. Taylor. Capt. P. D. Huston.

ARMY VETERINARY CORPS COMFORTS FUND (REGISTERED).

President: F. W. GARNETT, C.B.E., J.P. (President R.C.V.S).

Committee: Mrs. Blenkinsop, Mrs. H. Mosley, Mrs. K. McL. M'Kenzie, Mrs. A. A. Martin, Mrs. E. J. Wadley.

Hon. Treasurer: Mrs. G. Lloyd, Bolton. Hon. Secretary and Organiser: Mrs. J. Moore.

Bankers: The London, County and Westminster Bank, Heath Drive, Hampstead, Branch.

Hon. Auditors: Messrs. Callingham, Brown & Co. Chartered Accountants, 34 Nicholas Lane, E.C. Address: Hon. Secretary, A.V.C. Comforts Fund, 20 Parsifal Road, Hampstead, N.W.6.

The Fourth Annual Meeting was held at 10 Red Lion Square, London, W.C., on Wednesday, June 5th, Mr. F. W. Garnett, c.b.e., J.P., President of the R.C.V.S., in the chair. There were present: Mrs. Moore, Hon. Secretary; Mrs. Wadley, Mrs. Nicholls, Mrs. Moseley, Mrs. Blenkinsop, Mrs. MacKenzie, Mrs. Medway Moore, Mrs. Moscrop, Mrs. Bolton, Mrs. Martin, and Mr. Fred Rullock

Mrs. Moore read the following Annual Report and Statement of Accounts:—

HON. SECRETARY'S REPORT, June 1st, 1917, to May 31st, 1918.

At this Annual Meeting of Subscribers to the A.V.C. At this Annual Meeting of Subscribers to the A.V.C. Comforts Fund I have great pleasure in again submitting my report of the work accomplished during the past year, which makes the fourth winter of our activities. I may say that it is also with much satisfaction that the Committee, Hon. Treasurer and myself can that the Committee, Hon. Treasurer and myself can gain present such a creditable balance sheet—which

our Hon. Auditors, Messrs. Callingham, Brown & Co., have drawn, making it look quite a thing of beauty.

In this report I should like to take the financial statement first, and later, deal with the particulars of the actual comforts handled.

the actual comforts handled.

I feel sure those subscribers to the Fund who are gathered here, and those other numerous valiant friends and supporters who are precluded by distance from being present with us now, will feel pleased and gratified, as I am, that the total amount subscribed to the Fund during the past year has kept up the average in a most satisfactory manner. It will be seen by the audit sheet, so clearly drawn up for us, that our receipts have reached the total of £788 12s. 11d., which, with balance carried over from last year of £239 8s. 9d., has given us a sum of £1028 1s. 8d. on which to work.

Receipts.				£	s.	d.
To Balance at Bank, June 1, 19 Subscriptions and Donation	17 ons re	ecei	vec	239	8	9
during the year				788	12	11
				£1028	1	8
Payments.	£	s.	d.	£	8.	d
By Clothing	199	16	4			
Wool and materials	195	7	1	220		
	-		_	395	3	5
Newspapers, Magazines	384	8	10			
Newspapers, Magazines Games, Books, Stationery	92	6	5			
	-		_	476	15	3
Assistant's salary	8	9	0			
Freight, Postage, Sundries	16	5	1			
Printing	1	14	0			
	-	_	-	26	8	1
				898	6	9
Balance at Bank, May 31, 1	918			129	14	11
				£1028	1	8

We have audited the above Receipts and Payments Account for the year ended 31st May, 1918, with the books and vouchers of the Army Veterinary Corps Comforts Fund and certify the same to be in accordance therewith

forts Fund and cereify the same to the service.

Callingham, Brown & Co., Hon. Auditors.

34 Nicholas Lane, E.C. 4.

3rd June, 1918.

Articles as supplied to Army Veterinary Corps men on active service in France, Egypt, Salonica, Mesopotamia,

0.1		to May 31, 1918.	Total since Oct., 1914.
Socks		3371	11928
Mufflers		489	5469
Vests		141	3021
Pants		141	1996
Caps and Helmets		***	1600
Gloves and Mittens	•••	1446	6077
Jerseys and Sweaters Cardigan Waistcoats and	•••	•••	810
Overcoats Blankets		•••	600
Belts	•••	•••	500
Shirts		•••	500
		60	1560
Handkerchiefs	•••	1200	2900

The Fund is also sending out weekly parcels of newspapers, illustrated papers, magazines, etc., to some of the large Veterinary Hospitals in France, and to those Veterinary Hospitals in Egypt, Salonica and Palestine. Smaller parcels go to each Mobile Veterinary Section on all fronts, and also weekly supplies of these papers to the Director, Veterinary Service, Mesopotamia, for distribution amongst units there.

Taking into consideration the increased price of wool and woollen materials, stationery, books, freights, packing materials, it seems rather wonderful that we have such a good balance in hand as £129 14s. 11d. to carry over to this year's credit. Messrs. Callingham's audit sheet will give you details of how the sum of £898 6s. 9d. has been spent.

The amount of money spent on weekly parcels of newspapers, illustrated papers, etc., has grown considerably since last year, as the units of the A.V.C., specially mobile sections, have increased, and more requests have come in for additional units to be supplied.

Letters are frequently received by me from officers commanding A.V.C. units, asking to be put on the roll and expressing how deeply grateful they and their men are for this regular supply, for which all look forward each week.

There has also been a large demand for games—principally indoor games for winter evenings, but also footballs for outdoor exercise; and I am informed frequently what an interest and benefit these games are in keeping the men amused and happy in their billets—and as a wholesome counter-attraction to cafés and towns or villages.

The last column—money spent in salary, freights, postages, sundry expenses and printing, amounting to £26 8s. Id., I feel you will agree is a very infinitesimal figure as working expenses—less than 3 per cent. of the year's income.

With regard to actual comforts supplied the balance sheet will show our totals of articles handled for this year, and also the aggregate number for past four years during which the Fund has been in operation.

Over 150 bales—large and small—also cases of books, stationery, etc., under 56 lb., have been forwarded, besides numerous small parcels up to the 7 lb. postal limit. My regret is that more could not have been sent to individual units, and I fear some sections may consider they have received a very small portion of "comfort" from the Fund, but I must candidly state that owing to lack of help in the arduous work of packing and despatching, and lack of regular assistants, it was not possible for me with the aid of an occasional paid lady helper to accomplish more than these 150 bales and cases.

I have once more the pleasure of most gratefully expressing thanks to all those ladies and gentlemen who have sent in subscriptions, collected money or comforts, and who have so frequently shown great support, I may say, both material and monetary. Our thanks are due also to those ladies who have organised working parties and given us the fruits of their labours, in many cases the Fund paying for wool and materials as used. Also I would express our gratitude to ladies and gentlemen who have organised entertainments, and enterprisingly conceived ways and means by which the Fund has benefited—whist drives, sports, etc.

It has been the greatest encouragement to see how officers of the Corps have taken up the matter of subscribing and collecting money, and forwarding grants from their canteen funds, which are voted by N.C.Os. and men for the benefit of the fund. This I take as a very definite expression of their appreciation of the good they consider the Fund has done and the prospect of further good in the future.

I will append a few extracts from letters received in acknowledgement of gifts which the Fund has supplied during last winter, which I feel sure will interest subscribers and which will show how greatly appreciated our efforts have been by those for whom we have worked —our A.V.C. men on active service.

Before closing this report, the Committee wish to state how anxious they are to carry on the work of the Comforts Fund as seems now necessary to meet the needs of another winter. They look with renewed confidence to those kind subscribers who have so generously contributed in the past to again come to their assistance in supporting the Fund, and to give as liberally as possible to enable the increased demands to be met.

ADELAIDE M. MOORE.

20 Parsifal Road, Hampstead, N.W. 6. June 5th.

Cheques and all money subscriptions should be addressed:—To the Hon. Treasurer, A.V.C. Comforts Fund, c/o Mrs. Moore, 20 Parsifal Road, Hampstead, N.W. 6.

Extracts from letters received from A.V.C. Officers, N.C.Os., and men:—

(From Italy). "That last parcel, containing socks and mufflers, books, stationery, etc., came at a very opportune moment—just as we were under orders for the mountain tops at an altitude between 4000 and 5000 ft. Needless to say, the men were thoroughly delighted with the gifts. Accept our warmest thanks for these and other past favours."

(From Egypt). "I'm afraid this is rather a belated acknowledgment of your parcel from A.V.C. Comforts Fund, but this gift has been following us round the map of Europe for many weeks, and only reached us a few days ago. It proved even more acceptable than usual, however, as the men have had a pretty rough time lately. Please accept the very sincere thanks of all ranks for the gifts, which are always greatly appreciated."

"On behalf of the troops under my command (Portuguese Mobile Veterinary Section), I have to thank you very much for the comforts so kindly sent to us—they are very much appreciated, and just the very things we wanted."

(France). "May I thank you on behalf of the men of this section and myself, for the articles. They could not have come at a better time; everywhere is frost-bound, and snow is about six inches thick on the ground. The men appreciate very much the things sent to them, but probably do not know the amount of time and trouble that you and your helpers have to spend in getting everything together, sorting, packing, etc. If you could only hear some of the comments passed on distribution I am sure they would be greatly appreciated by you and all concerned."

"I am writing to thank you for your parcel of comforts which has just arrived. I distributed them to the men yesterday, and they were all very pleased with their gifts. It is very cold here at present, and we have had almost continuous frost for the past month, so the socks, mitts. and mufflers were greatly appreciated, and will be a real comfort to my men. I would also like to take the opportunity of thanking you for the weekly parcel of papers you so kindly send us. Reading matter of any kind is difficult to get hold of and we rarely see a newspaper, so look forward to your budget each week."

"Your weekly parcel of papers has been a great boon to the men, especially as we have been for the last ten months in the recaptured part of France, and about ten miles from the nearest inhabited village."

(Salonica). The D.D.V.S. desires me to acknowledge the receipt of, and thank you for, the parcels of comforts recently received. The socks have been distributed to all the Mobile Veterinary Sections of this force, and are much appreciated."

(Mesopotamia). Every so many thanks for the three bales comforts which have arrived safely. I have distributed the gifts amongst the Mobiles on the Tigris front, and needless to say the men are delighted with all the useful things you have so kindly provided. The books and games are also very acceptable."

Commandant Red Cross Hospital, No. 1 Convalescent Horse Depot, writes:—I am writing to acknowledge with very many thanks, your splendid gift of vests, pants, sheets, pillow cases, towels. The men appreciate the comforts immensely. The weather is bitterly cold, and they arrive here simply perished from a long ambulance drive, but after a hot bath, if well enough, to be popped into a warm bed, and wearing one of your nice vests and pyjama suits—it seems to them like heaven. I don't think I have ever met men who are more grateful and appreciative than those out here.

Mrs. Moore, after reading the report and accounts, said the report dealt with the past, and she now desired to make a short statement in regard to the future. A small gathering of A.V.C. officers, arranged by Mrs. Blenkinsop, had met with the object of discussing the views of officers of the Corps with regard to the future of the Fund, and the general result arrived at was that it should continue on much the same lines as hitherto, an endeavour being made, however, to reduce in some way the labours of packing, by ordering from wholesale houses and getting them to do the packing and despatching. With that object it was very necessary that all capital should be subscribed in advance, owing to the rush of parcels that had to be dealt with between October and Christmas. It was very desirable that the work should be done before Christmas, but in many cases in the previous years the Committee had not been able to be as generous as they would like to be because they had not a very large balance at the bank. Many subscribers felt that any time during the year was sufficient to send in subscriptions, but for next winter's work she desired to appeal to subscribers to send in their subscriptions well previous to Christmas, before the winter actually sets in, as it takes a considerable time to get out the lists, and for the packers to despatch the parcels.

and for the packers to despatch the parcels.

Many officers felt that in view of the shortage of materials at home it was not wise to send out more woollen articles than were absolutely necessary. To hot climates, in countries like Egypt, of course, no woollen articles at all were sent, but thin vests and so on. The men could always obtain socks from the Ordnance Store if they produced their old pair ot socks, but that did not give them the changes of socks which she in the past had felt necessary. She did not grudge a man having three pairs of ssocks—one to wear, one to sleep in, and one clean. However, at a meeting recently held, socks were rather barred as they could be obtained from the Ordnance Stores. It was agreed that mufflers, mittens, and things that were not on the Ordnance lists should still be continued. It was also thought desirable that the papers should be continued to those units which were not able to furnish their own requirements. The mobile sections were particularly grateful for the papers, many of them are isolated in devastated regions, and

number of letters had been received expressing grateful thanks for the papers that had thus been despatched. It would be seen from the balance sheet that quite a large sum of money had been spent in the past year on that item—£384 88. 10.

that item—£384 8s. 10.

It was thought that to obviate the necessity of packing so many books as she had done in the past it would now be possible to work through the Camps Libraries, the subscribers and collectors will be asked to send the books to the central depot of the Camps Libraries, while the Fund could order cases of books from booksellers to be sent out and distributed. The officer in command of the advance depot of the veterinary stores in France, close up to the front, had been most kind in distributing things in bulk, and he was also able to distribute little parcels of books, stationery, and so on to individual units with which he was in touch. Major Leaning and Major Wadley had been very kind in that respect, and had written suggesting that she should not do so much of the packing up at home; that they could men to do the work of the packing and the giving out of the parcels. It was therefore proposed in future to send the parcels in bulk to be distributed on the spot. Everything that was sent to the Camps Libraries must be labelled distinctly, "For the Army Veterinary Corps"; it must not be mixed up with other books. Mrs. Blenkinsop had seen the Secretary of the Camps Libraries and the Camps Libraries had undertaken to do that work for the Fund. A good many of the Veterinary Corps people had already applied to the Camps Libraries; for instance, those who had formed small nucleus libraries in their veterinary hospitals.

Her principal appeal last year was that socks should be knitted, but for the present year she need not worry those interested in the Fund to knit socks. If it was found in future that socks were in particular request, she was in touch with very large knitting industries from which she could obtain 500 or 600 pairs of socks in a fortnight. The Belfast War Work Supply Committee generally had large stocks of sock on hand.

With regard to the actual management of the Fund, if the packing and collecting were taken off her-shoulders she felt that she would be very considerably relieved of the hardest work in connection with it. She would be very glad to carry on the clerking and the scretarial work as far as she was able, and she was delighted to be able to tell those present that Mrs. Blenkinsop had very kindly come forward and said she would take a large part in the working of the Fund.

Personally she was faced with the difficulty that she could not undertake to do any packing next winter as she might be giving up her house in September, and as it was a little uncertain as to where she would eventually camp out for the winter, she could not offer to have parcels at her house after the end of September. She desired, in conclusion to thank everyone who had worked a vote of thanks would not be moved on the present occasion by an officer of the Veterinary Corps, as was the case at last meeting, when Major Olver voiced the gratitude of the Veterinary Corps, but she desired to thank the President and Mrs. Garnett for all the help they had given. Right from the first Mr. Garnett had been one of the supporting pillars of the Fund, and a great debt of thanks was due to him for his kind interest in it, and also to Mrs. Garnett for the hard work she had carried out, particularly in the way of beating up knitters, looking after the wool, and distributing up knitters, looking after the wool, and distributing up knitters of the remaining the schools. Mrs. Garnett was one of the ladies connected with the Fund to whom she could always look for magnificent socks. (Cheers).

mobile sections were particularly grateful for the papers, many of them are isolated in devastated regions, and there the papers were eagerly looked forward to. A statement. The work from the very first had been a

source of pleasure to Mrs. Moore, but at the same time it had meant that a tremendous amount of labour had been placed upon her shoulders. He was pleased to hear arrangements had been made whereby the heavier part of the duties would in future not devolve upon her. The arrangement that had been come to was, he thought, a very sensible one, which would work very well provided sufficient publicity was given to the name of the place to which articles, books, magazines, and subscriptions were to be sent. During the coming year they must be sent to three different centres, and then the Committee of ladies, with the help of Mrs. Moore and Mrs. Blenkinsop, would be able to see that what was received at those centres went to the Army Veterinary Corps, and there need not be the slightest fear that they would not safely reach the people it was in-tended they should benefit. He desired to make an appeal for as much money as it was possible to subscribe for the coming winter campaign, because it seemed to him that that was the most practical way now of helping the Comforts Fund. The way in which the profession and friends of the profession had responded in the past had been splendid. Personally, he never anticipated that the Fund would reach such large dimensions as it had, and nobody anticipated that its work would continue for four years. They were now faced with the fact that the work must continue, because no one could say when the Fund would be no longer reone could say when the rund would be no longer required. He was sure the veterinary profession would not be found wanting in providing any aid that might be necessary to help forward the efficiency of the Army Veterinary Corps in the future. Many ladies had performed splendid work during the past four years, in particular Mrs. Moore, to whom they all owed a special debt of gratitude for her organising work, and also to the ladies comprising the London Committee.

The accounts had been presented in an excellent

manner by Messrs. Callingham, Brown & Co., and he was sure they might be accepted as accurate considering that the signature of that firm is attached to them. He desired to thank them, on behalf of the Fund, for the trouble they had taken in auditing the accounts.

Mrs. BLENKINSOP, in moving that the report and accounts be received and adopted, said the Fund had worked very well indeed during the past year, and they intended to carry on in the future, with the exception that it was not intended to provide so many wollen articles, and the hospitals would also be asked to provide their own papers. At present they subscribed a large amount to Mrs. Moore for that purpose, but they might just as well find the papers for themselves. She thought, also, it would be advisable if the Committee was enlarged and a few more ladies were induced to serve on it. If a lady from each district was appointed on the Committee and attended the meetings once or twice a year, it would keep a local interest in the Fund in the different parts of England from which those ladies came. In that way they would act as advertising agents in the districts, whether in the north, south, east or west, and would help to keep the Fund going. She thought it would be a good plan also to start a sinking fund for the provision of comforts at the end of the war. A good many difficulties would have to be dealt with when demobilisation came, and she thought that any money that was not actually spent on comforts at the present time should be put into a sinking fund for that purpose. The Committee need not necessarily spend the whole of the money received, because it might be desirable to keep it for a still more rainy day.

Mrs. Moore thought Mrs. Blenkinsop's suggestion an excellent one if sufficient money could be obtained, but she was afraid that when thousands upon thousands of men were demobilised only a few individual cases could

call on the Comforts Fund in case of any emergency. Some time ago she applied to the officer in charge of the depot at Woolwich to ask if he knew of any cases of men who came back disabled or incapacitated and who were hard up for money and civilian clothes while they were waiting for their pensions. One sometimes heard harrowing stories of men being kept weeks and weeks before receiving their pensions, and she thought that such men and their families could be helped. But she had been assured over and over again that all the men came back with plenty of money in their pockets, and the army fitted them out with clothes.

Mr. BLENKINSOP said she was thinking more of the wives and children later on. The War Office certainly would not fit the families out with clothes. She had much pleasure in proposing that the report and accounts be received and adopted.

Mrs. Mosley formally seconded the motion, which

was carried unanimously.

Mrs. Moore said she desired to announce that a letter would shortly be sent to each subscriber to the Fund informing them of the details of the changes in the organisation and giving the different addresses to which

things were to be sent.

Mr. F. Bullook thought those present should not separate without passing a hearty vote of thanks to Mrs. Moore for her splendid work on behalf of the Fund. In her speech and in her report she was very generous in her thanks to everybody but herself. A more modest statement of her own contribution to the work of the Fund could not possibly have been given by anybody. But no one who knew, as he did, what it means to receive and spend money, and account for it in a proper manner to the auditors at the end of the year, particularly the large amount of money collected by the Comforts Fund, could not help being amazed at the amount of work Mrs. Moore had accomplished. £788 had been collected in one year, and as many as 6000 individual articles of one particular kind only had been dispatched to the troops, while a total of 150 bales, or three a week, had been sent off during the year. Three bales a week represented the average, but everyone knew that most of the work was accomplished in three months of the year, and the strain on Mrs Moore during that time must have been tremendous. As a mere man he stood aghast at the amount of work Mrs. Moore had carried out since the inauguration of the Fund, and he had much pleasure in moving their most heartfelt thanks to her for all she had done.

The resolution having been carried by acclamation, Mrs. Moore thanked Mr. Bullock very heartily for the kind words he had used and those present for the manner ln which they had been received. She could only say in self-defence that it was a very small contribution on her part towards winning the war, and she was delighted to do it.

SWEET ITCH.

What is it, please? In most good grazing districts, especially those of the Western counties, this irritable condition of the skin makes its appearance in animals turned out to graze, and in some that are kept at work and stabled. It recurs in the same animals year after year: and spoils the appearance and the comfort of the subject Owners ask what is the cause. Who knows? No information is to be found in any books in my possession, and every practitioner who is asked burks the question, apparently thinking it a matter of no moment that we should be ignorant of the cause and unable to prescribe successfully for a malady so annoying and disfiguring to horses. True for ye, it always goes away be dealt with in that way. She thought the heads of the Veterinary Corps ought to know that they could taken. Some veterinary surgeons I have mentioned it in the late autumn without any curative measures being

to have never seen it: others attribute it to a form of eczema, and one (an eminent member of the Council) assures me that it is psoroptic mange. If the latter, why does it restrict itself to the mane and croup and tail, and not spread in the usual way of mange, either sarcoptic or psoroptic? Can it be a special variety, or does it, like scab in sheep, lay dormant around the muzzle and come out in the spring like the doodle bug? Any information on the subject would be very welcome to many besides.

to many besides,

HIBERNICUS.

DIFFERENTIATION OF MANGE PARASITES.

Dear Sir,—I should like to draw attention to your article in *The Veterinary Record* of May 18th, on the new Mange Order. The airy way in which you speak of finding the parasite and determining its species is really amusing to us poor Inspectors who have to sit

over the microscope by the hour. Nothing is more difficult or tiresome in most cases, especially when the horse has been dressed a time or two by the owner with Jeyes', or something oily, to stop the itching; in many cases we have only the clinical appearances to guide us. Why the two species have separate treatment I cannot imagine—except to make for litigation. They are both difficult to cure, and require the same time and dressings. Apologising to you, I remain,

CHARLES MORGAN, M.R.C.V.S.,
Nonington, Dover,

19th June.

Nonington, Dover, 19th June.

OBITUARY.

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

Period.		Anthrax		Foot- and-Mouth Disease.		Glanders.†		Parasitic Mange. ‡			Swine Fever.			
		Out- breaks mals.	Out- breaks (a)	Ani- mals,	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab.	Out- breaks (a)	Slaugh- tered.			
GT. BRITAIN.		610.51	1.25	1				1		1		1	(-)	
	Veek e	nded Jun	e 15	3	3			2	8	79	156	4	46	22
Corresponding week in	{	1917 1916 1915		5 10 8	5 11 8			1 4	1 4	38 29 20	66 86 41	3.	58 121 123	25 858 720
Total for 24 weel	ks, 1918	3 		138	155			18	51	2852	5461	240	610	213
Corresponding period in	_{	1917 1916 1915		285 301 342	321 357 379	1	24	13 24 19	24 65 24	1505 1431 ‡372	3041 3355 ‡827	378 173 156	1313 2399 2089	552 7540 9742

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—Essex 2, Hants 5, London 1
Board of Agriculture and Fisheries, June 18, 1918 Excluding outbreaks in army horses.

IRELAND. Week ended	June 8			 			Outbreaks 1	3	1	1
Corresponding Week in {	1917 1916 1915			 	:::		1 2 7	2 1 5	4 8 10	12 43 34
Total for 23 weeks, 1918		1	1	 			70	167	8	28
Corresponding period in	1917 1916 1915	3 2 1	5 6 1.	 	1 1	1 3	24 31 30	214 214 245	130 138 131	881 731 773

Department of Agriculture and Technical Instruction for Ireland. (Veterinary Branch), Dublin, June 10, 1918

IRELAND. Week end	ed June 15			 			Outbreaks 4	3	1	1
Corresponding Week in	1917 1916 1915		:::	 		:::	2 2 1	8 1 2	2 7 2	13 51 14
Total for 24 weeks, 1918		1	1	 			73	170	9	29
Corresponding period in	$\begin{cases} 1917 & \dots \\ 1916 & \dots \\ 1915 & \dots \end{cases}$	3 2 1	5 6 1	 	1 1	1 3	26 33 31	222 215 247	132 145 133	894 782 787

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 17, 1918.

Note.—The figures for the Current Year are approximate only.

As Diseased or Exposed to Infection

RECORD VETERINARY

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1564

JUNE 29, 1918.

VOL. XXX.

THE PRESIDENTIAL ELECTION.

At their coming meeting the first business of the Council will be to elect a President for the ensuing year. It remains to be seen whether the choice will fall upon some senior member of Council who has qualified for the Presidency by length of service, or whether the reins will be left in the hands that have held them so long and so ably. There are certainly old and tried Councilmen who will merit the honour of Presidential office. On the other hand, in view of the present exceptional circumstances, it is difficult to see how a change of President this year could be to our advantage.

Mr. Garnett became our President just before the war, and has since been confirmed in the position. He commenced with the initial advantage of a larger experience of public work in general and a more intimate knowledge of the working of the Council than most of its members possess. During his Presidency he has had to deal with a great variety of unforseen tasks, involving much difficult and delicate negociation with Government Departments. The ability with which he has met his difficulties, and his success in dealing with them, are admitted by all. In addition to his proved capacity, he now has the advantage of long Presidential experience and close touch with the many details of our present position. All these points are undoubtedly strong reasons for retaining him. There are o her possible candidates for the Presidency whose records of work in other directions suggest that they might prove Mr. Garnett's equal; but how many could be quite relied upon to be so, especially at first?

The Presidency of the R.C.V.S. is now no post of easy official honour. The last four years have been extremely troubled and anxious ones for the profession; and the coming year is certain to be no less so. Much will depend upon the resolution, judgment, and tact possessed by next year's President; and a heavy responsibility rests upon the Council, which must decide next week upon the fittest man to hold the office. "Who is the fittest?" should be the sole question to decide the election; for, while all recognise the gravity of our present position, no one can foretell what fresh problems will arise during the year. If a new President is chosen to cope with them, he will have the support and good wishes of the profession in his extremely difficult post. Mr. Garnett will have the same if he remains at tle helm; but in that case the profession will feel a quiet confidence that the hand which has guided it for four critical years will not fail in the fifth.

THE WORK OF THE YEAR.

The annual index brings to notice the subjects which have received attention during the preceding twelve months. In some years there have been numerous entries under a heading which in the succeeding year may have shown only a few. Some half dozen years ago, Tuberculosis easily held the first place. This year, that position falls to Tetanus; and others which show slight prominence are Contagious abortion, Sheep diseases, Swine fever, and the question of our students and army service.

With so many men on military service, where publication is stifled, and the country practitioners most of them doing the work of men who are on service in addition to their own, records are naturally fewer: and it speaks well for some of the members that we are able to show so much of their work. Several of the Societies have made valuable

contributions to professional progress.

SHYING IN A HUNTER PROBABLY DUE TO ENLARGED CORPORA NIGRA.

By HENRY TAYLOR, F.R.C.V.S., Haywards Heath.

Some little time ago I was asked to examine the eyes of a heavy weight hunter that had taken to shying to a very dangerous degree. Perhaps the word shying does not convey a true meaning as applied to this case, as it presupposes that there was some object which caused the act; but this animal used to suddenly swerve or jump aside without apparent cause, so far as the rider could see. For example, whilst cantering on the Downs with not a thing to distract his attention, he might suddenly stop and swerve, to the great discomfort of his rider.

After a careful examination of both eyes I was unable to satisfy myself as to the nature of the condition which caused this phenomenon, though the corpora were unusually large. As the horse was not safe to ride he was disposed of, and his next occupation was hauling coals, grain, etc., in a pair-horse van.

Later on I had another opportunity to examine him, and on this occasion the abnormal size of the corpora nigra of both eyes at once arrested one's The size was such that perhaps a attention. quarter of the pupil could be obstructed. I use the word could, because on closer inspection the bodies were noticed not to be sessile but to be more or less free, floating in the aqueous humour, by means of a thin pedicle or neck. The bodies had increased in size since my first inspection, but it is probable that they were floating at that time. The explanation of the shying no doubt lies in the fact that the loose bodies suddenly distorted the vision or limited the field. The horse does not shy nearly so badly in the van, the slow pace no doubt has something to do with this. There is no interference with the contraction of the pupil, which can be narrowed to a mere slit in the bright sunshine.

UMBILICAL HERNIA: Non intervention: Recovery.

A three-year-old Clydesdale mare has recently been sold by public auction for 75 guineas. This mare when a foal had a large umbilical hernia, on which we intended to operate when she was taken from the mother. The day after she was weaned an attempt was made to halter her, when she became very unruly, plunged, and threw herself down. When lying on the ground she somehow or other laid open the hernial sac with some sharp body, so it was thought. No notice of this was taken for two days after, when a neighbour was looking at her, he observed the swelling to be much bigger, which, on handling, was found to be full of faces. We were at once sent for, about 9 p.m. My son went with the messenger. He cast the filly, and on examining found a wound about $1\frac{1}{2}$ inches long, and an opening into the bowel large enough to admit the end of the finger, and the hernial sac full of fæces, the tissue surrounding the wound hard and thickened. Being midnight, he cleaned the part and put a suture across the wound to prevent the bowel from protruding, and left her until next day; when I accompanied him. We found the filly quite composed, feeding well, pulse and temperature normal, with no appreciable swelling about the wound. We re-cast and made a further examination, and found the parts in a somewhat similar condition as on previous day. No inflammatory action of any moment to be seen about the opening into the bowel, which was quite exposed. After sponging and cleaning the wound with Condy's fluid and cold water, we decided to leave the case alone and not interfere at present, as the filly did not appear to be at all inconvenienced. Ordered her to be fed as usual and the wound to be kep clean by sponging night and morning with cold water and Condy's; and to report at once if any-thing particular was observed.

After the third day no more faces were observed, and the parts were left alone. The hernial sac gradually disappeared and a grand recovery was the result.

From the nature of the edges of the wound I always think that the wound had been made with a sharp knife: this the owner stoutly denies, yet when I tax him with it he laughs. When I accompanied my son to see the case it was our intention to lay the parts open, but, as already stated, after examining we let well alone. So much for non-intervention.

Hy. Thompson, M.R.C.V.S.

Aspatria, June 24.

ABSTRACTS FROM FOREIGN JOURNALS.

THE INTRAVENOUS USE OF ANTIMONY TRIOXIDE IN EXPERIMENTAL TRYPANOSOMIASIS.

G. L. Hoffmann published an article upon this subject in Die Zeitschrift für Hygiene und Infectionskrankheiten for 1915.

He refers to the earliest use, in 1907, of antimony compounds, especially tartar emetic, and their later employment in conjunction with arsenical compounds such as atoxyl.

Morgenroth, who studied the use of a large number of antimony compounds, came to the conclusion that they had a more pronounced action on trypanosomes than the compounds of arsenic. Subsequent observers also found that sodium and potassium antimony tartrates exert a specific influence on T. Drucei, causing its disappearance from the peripheral blood a few hours after the injection.

A systematic study of the various preparations of antimony, with reference to their practical value, was made by Kolle, Hartoch, Rothermundt, and Schuermann. The authors found that only the trivalent compounds of antimony possessed a pronounced action, but at the same time they showed a very marked toxicity. The pentavalent compounds of antimony were neither chemico-therapentically active nor pronouncedly toxic.

peutically active nor pronouncedly toxic.

An exception to the rule that the trivalent compounds were markedly toxic was found in trioxide of antimony. The last-named authors found that this compound was almost atoxic for mice, rats, and to a large extent, for guinea-pigs. In cases of infection with T. brucei, however, comparatively small doses led to a permanent sterilisation of the blood in experimental animals. In the chronic infections produced by T. equiperdum and T. gambiense, the treatment had to be repeated to produce durable results.

The very favourable relation between the minimum curative dose and the maximum tolerated dose demonstrated, in the case of nagana in mice, that antimony trioxide possessed the largest chemico-therapeutical co-efficient of all the compounds of antimony.

It was found that, contrary to what was the case in mice, rats, and guinea-pigs, antimony could not be administered intramuscularly in an oily suspension to other animals, especially dogs, rabbits, and monkeys, on account of the formation of severe abscesses which it produced. In these animals the compound had to be administered intravenously; and, according to the experiments of Kolle and his collaborators it was found that one or two injections of small doses of the trioxide in normal saline solution produced curative effects in nagana, also in dourine in rabbits. From the fact that the heavy trioxide quickly precipitates in saline solution, it might produce dangerous effects due to the formation of emboli.

Hoffmann details his own experiments on the use of antimony trioxide. As media for the suspension of the compound, he used sterile solutions

of gum arabic and of sugar. A series of experiments showed that the best medium is a mixture of the two solutions. The syrupus simplex of the Swiss Pharmacopeia, containing 7.5 per cent. of the gum, was found to be the most convenient concentration for the suspension of the heavy trioxide. Numerous experiments upon rabbits showed that this medium produced no toxic effects when administered intravenously in such quantities as would be used in treatment with the trioxide.

As a general rule, the strength of the emulsion was calculated so that 1 c.c. contained 150 mg. of Sb₂O₃. The latter was triturated in a mortar with the solutions and autoclaved at 120° C. for 15 minutes. Just before intravenous injection the emulsion was warmed for two minutes to expel air-

Experiments to determine the toxicity showed that larger quantities could be thus tolerated than when given in saline solution.

The author describes experiments upon rabbits which were infected subcutaneously with naganainfected blood, and treated when clinical symptoms appeared. These experiments clearly proved that even a small dose (23 mg. per kilo of body-weight) produced a lasting cure. Some of the animals were kept under observation up to eight months afterwards. The clinical symptoms disappeared almost immediately after the injection. The few animals which died in the course of this time could not be said to have died from antimony poisoning, as it was shown that up to 100 mg. per kilo could be tolerated.

Rabbits were also infected subcutaneously with dourine, and, as in the preceding experiments, when about a month afterwards decided local lesions appeared, varying doses of Sb₂O₃ were administered intravenously. It was found that the intravenous injection of about 30 mg. per kilo. produced a permanent cure, as in the case of nagana. Dourine, however, owing to its chronicity, is more difficult to influence.

The author thus confirms the opinions of Kolle and his collaborators that Sb₂O₃ possesses a very powerful therapeutic action as a trypanosomicide. -(Revista de Higiene y Sanidad Pecuarias).

THE RESISTANCE OF SWINE TO STARVATION.

L. Zerboni records the case of six young sows, aged about 100 days, and intended for breeding, which were sent from Poggiborsi to Gallurate on November 17, and, for some reason not yet clearly explained, did not arrive at the latter station till December 13. For a good 25 days, therefore, the animals remained shut in two hampers without receiving water or sustenance of any kind. Nevertheless, only two of them arrived dead. The other four, though terribly emaciated, still preserved sufficient strength to stand and to walk. These four also speedily died, but Zerboni believes that if the treatment he advised (warm baths, administration of tepid milk diluted with water, and injections of physiological solution containing glucose, and of camphorated oil) could have been adopted, some of them might perhaps have been saved. In any were inoculated, but the results were entirely negative.

case, he thinks that the power of resistance to starvation for so long a period which these pigs displayed is worthy of record. The animals belonged to the black Tuscan breed.—(La Clinica Veterinaria).

W. R. C.

REPORT OF THE GOVERNMENT VETERINARY SURGEON, CEYLON, 1917. Mr. G. W. STURGESS. [Abridged.]

Staff. Assistant Veterinary Surgeons: Mr. E. T. Hoole, G.B.V.C., Colombo; Mr. M. D. S. A. Wijayanayaka, G.B.V.C., Nuwara Eliya; Mr. G. B. de Silva, G.B.V.C., Kandy; Mr. V. A. Hoole, G.B.C.V., Ratnapura. Manager, Government Dairy, and Assistant; Laboratory Assistant; 13 Stock Inspectors.

INFECTIVE DISEASES.

The total number of cases of Rinderpest for the year was 2076, against 856 last year: these occurred in six of the nine Provinces. The increase is chiefly due to a somewhat extensive outbreak in the town of Colombo-806 cases.

There was a great increase in Foot-and-mouth disease during the year, and all Provinces were infected. The total number of cases was 7132, against 284 last year. As is usual in this country, the disease was of a very mild type, and little loss was caused, only 94 deaths were reported.

The number of cases of Anthrax outside Colombo was 62. In the town 6 cases occurred, and in the quarantine station 472 cases amongst the goats and sheep imported from South India, the disease being very prevalent

amongst these animals during shipment.

Rabies was more prevalent than usual during the year, especially in Colombo town. 42 cases were examined at the Bacteriological Institute, of which 25 gave positive and 17 negative results. 189 persons went from Ceylon to the Pasteur Institute at Coonoor for treatment. In all 55 cases were reported, of which 51 were from Colombo town.

Odd cases due to infection by Piroplasma bigeminum were reported from time to time, especially amongst

imported European cattle.

In June two cattle died in Uva of eating rubber leaves, a ball of leaves and coagulated rubber being

found in the throat on post-mortem examination.

No outbreak of infectious disease in horses occurred during the year. The disease that caused most loss was osteoporosis. Considerable work was done in the laboratory with reference to this disease. Conreur, in Brazil, in the course of an investigation, constantly found a threadworm (Cylicostomum tetracanthum) in the execum and colon, and considered they had an influence in producing the disease. Van Saceghem, in Zambi, Belgian Congo, has pointed out that all horses are infected with these worms, but no case of osteoporosis has been observed, but if taken to the Lower Congo District, osteoporosis is met with amongst them. Investigations in Ceylon were directed to these two points, but the results were negative, and laboratory animals could not be infected with either. Horses were infected with Cylicostomum tetracanthum, and laboratory animals were fed with the worms and the ova, and parasites rubbed up in physiological saline were injected hypodermically without any ill-effects whatever, from August 13, 1917, to date.

A gram-positive diplococcus was obtained from the urine of two cases, growing with difficulty on ordinary media, best in blood serum agar, and laboratory animals Inoculation with Rinderpest serum.

Inoculation with Kinderpest serum.

Contacts inoculated in 1917, 230. Remained free, 188. Became ill within a month, 42: Recovered, 17; died, 25. Imports. Horses, 58; Cattle, 5781; Sheep, 11,024; Goats, 62,539. Compared with 1916, there has been a decrease of 207 horses, 3419 cattle, 931 sheep, and 2326 goats, probably due to shortage of freight. Outside Colombo town the meat supply has been drawn from country cattle. The greater part of the Colombo supply has also been drawn from country cattle, since the number imported for slaupther represents only about one ber imported for slaughter represents only about one month's requirement at Colombo slaughter-house.

[Tables are given of Disease returns; details of Imports and of work at Quarantine Stations. Also particulars of working the Government Dairy, Branch Farm at Ambepussa, and Model Farm. These are of local

VETERINARY POST-MORTEM TECHNIC. By WALTER J. CROCKERS ETERNARY FOST-MORTEM LEGINIC. BY WALTER J. CROCKEN B.S.A., V.M.D., Professor of Veterinary Pathology, School of Veterinary Medicine, University of Pennsylvania-Pp, xiy+293, inclusive of index. With 142 illustrations. Price 16/- net. (J. B. Lippincott Company, Philadelphia and London).

This book is a novelty in the veterinary literature of our language. It is devoted solely to the technical methods of performing post-mortem examinations; and, though it is evidently written chiefly for college use,

methods of performing post-mortem examinations; and, though it is evidently written chiefly for college use, and for those who perform many autopsies under conditions facilitating accurate work, it will be very useful to a much larger section of readers.

After a preliminary introductory chapter, two chapters deal respectively with the autopsy room and with post-mortem instruments. These are very complete, and include descriptions and illustrations of a great variety of instruments, many of which are little known.

The next chapter deals with the external examination of the cadaver, and is followed by five chapters upon internal examination of the different animals. The horse, ruminants, and swine, each receive one chapter, the next one deals with the dog and cat, and the last with the mouse, guinea-pig, rabbit, and fowl, with some details regarding the elephant. Another long chapter is then devoted to the technique of examining the various organs when detached from the body, and their description, and this is made much more helpful by a series of comparative descriptions in tabular form of the organs of the different animal species. The next chapter deals with the post-mortem protocol and report, and concludes the work.

The author treats the whole of his large subject with

of the different animal species. The next chapter deals with the post-mortem protocol and report, and concludes the work.

The author treats the whole of his large subject with minute detail; and the methodical care of his technique forms a refreshing contrast to the rough and ready and often insufficient fashion in which some practitioners still perform autopsies. Some of his methods differ from those most in use in this country; but the book gains in interest on that account. It may be commended alike to the expert post-mortem worker and the general practioner. The former, though he may not agree with some of the directions given, will probably find others which are useful suggestions; while the autopsies of the latter can hardly fail to gain in accuracy and completeness from its study. The book comes to fill a distinct gap in our professional literature, and will do so with a large measure of success. Its value is much enhanced by the numerous illustrations. All are well executed; and, though some of those depicting the commoner instruments seem scarcely necessary, the anatomical ones, which give lines of incision whenever necessary, are all helpful.

W. R. C.

W. R. C

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1918: ing

subscriptions for 1010.				
Joseph Blackburn, Capt. A.v.c.	£2	2	0	
G. A. Bushman, London	1	1	0	
John Davidson, Newcastle-on-Tyne	1	1	0	
S. H. Gaiger, Glasgow	1	1	0	
Thos. Sealy Green, Capt. A.v.c.	1	1	0	
Alex. MacKenzie, Capt. A.v.c.	1	1	0	
James Moore, Paris	1	1	0	
Richard A. Philp, Brentwood	1	1	0	
H. C. Taylor, Capt. A.v.c.	1	1	0	
Previously acknowledged	866	8	5	
	2976	19	-	

ARMY VETERINARY SERVICE

Honours List, June 3.—Amendment. Awarded M.C.

For Capt. (temp. Maj.) T. Bone, A.v.c., read Capt. (actg. Maj.) H. Bone, A.v.c.

Extracts from London Gazette.

WAR OFFICE, WHITEHALL, REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. L. A. Auchterlonie, Spec. Res., to be actg. Major whilst comdg. a Vety. Hospl. (May 29).

To be temp. Qrmr., with hon. rank of Lieut.:—W. C. Pepperell (June 4.)

Temp. Qrmr. and Hon. Capt. W. H. Weller relinquishes his commn., and is granted the hon. rank of Lieut. (June 21)

Temp. Qrmr. and Hon. Lt. F. Cranfield relinquishes his commn., and is granted the hon. rank of Lt. (June 21).
Temp. Qrmr. and Hon. Lt. to be Hon. Capt.:—J. Hyde (May 30).

Temp. Lts. to be temp. Capts.:—F. H. Leach (June 4); G. J. O'Brien (June 10). To be temp. Lts.:—J. Finlayson (May 31); W. Urquhart (June 3)

[aj. (Bt. Lt.-Col.) W. A. Wood to be actg. Col. while holding the appt. of Dep. Dir. of Vety. Servs. (Nov. 5, Mai.

Maj. W. E. Schofield to be actg. Lt.-Col. while holding the appt. of Asst. Dir. of Vety. Servs. (Apl. 23).

To be actg. Majs.:—Temp. Capt. W. H. James while holding the appt. of Asst. Dir. of Vety. Servs. (Dec. 21, 1917) While holding the appt. of Dep. Asst. Dir. of Vety. Servs.:—Capt. R. F. Bett (Feb. 3); Capt. J. Blakeway (Apl. 4); Capt. J. J. Dunlop, M.C., Spec. Res. (Apl. 13).

Capt. R. Simpson is placed temporarily on the h.p. list on acct. of ill-health contracted on active service (June 25).

(June 25)

Temp. Lts. to be temp. Capts.:—B. Tay, J. J. Aveston

TERRITORIAL FORCE, ARMY VETERINARY CORPS.

Jnne 6. apt. (actg. Maj.) J. F. Rankin to be actg. Maj. (July 9, 1916) (substituted for that which appeared in the Gazette of June 4). CANADIAN A.V.C.

June 22. Temp. Lt. to be temp. Capt. :- A. H. Hughes (June 1).

SOUTH AFRICA V.C.

June 22. To be temp. Capts.:-G. McCall (Dec. 27, 1917, sen. Nov. 1, 1914); H. M. Webb (Jan. 23, sen. March 11, 1916).

The following casualty is reported: --WOUNDED-Maj. C. Hartley.

Military appeal dismissed.

At Aylsham, Norfolk, Tribunal on Wednesday, 5th inst., an appeal was heard concerning a young veterinary practitioner, classed B1, for whom Mr. C. B. Hill, of Norwich, appeared.

It was explained that the young man was locum tenens for the owner of the practice, who is in the army.

The National Service representative, Mr. Barry, explained that previously conditional exemption had been given, but since then the Royal College of Veterinary Surgeons had approached the recruiting authorities on their own initiative, stating that there was a great shortage of duly qualified veterinary surgeons, and urging that in this case it would be better if the young man's exemption were reviewed in order that he might complete his College training, and afterwards obtain a commission in the Veterinary Corps.

Col. Sapwell: Is that the reason you are bringing the

appeal?
Mr. Barry: Yes, on account of the army requirements and this additional evidence from the Royal College of Veterinary Surgeons. They think he is sheltering him-self down here as a locum tenens, and ought to go to Edinburgh University to take his degree. Having done

that he would get a commission in the army.

Mr. Hill contended that if the petitioner were called up he would be entitled as a third year student to go into College to complete his training. The review of the exemption did not concern the R.C.V.S., but only the petitioner, the National Service representative, and the Tribunal, who would consider what was best in the national interest having regard to the conditions of the district. It would be better for the practitioner to go into College and complete his training. He would then get a commission and a good salary in the army, and would also be duly qualified, but the fact that he was not doing that showed how necessary it was for him to remain in his present position. He had to make a personal sacrifice to keep the business going of another practitioner who was in the army. Every effort had been made without success to find a substitute. Mr. Hill also produced recommendations from two other veterinary surgeons in favour of the young man remaining at his work.

The practitioner stated that he was solely responsible for 30 out of 54 parishes. In reply to questions he said the condition of many of the animals was poor. Several were in slings, and if farmers did not want him they

would not send for him.

Mr. Fisher: On account of the shortage of food there is more trouble with horses than before the war.

It was stated that the College course would not be

completed under 15 months.

Mr. Hammond: Do you want to keep out of the

The practitioner: Certainly not. If I wanted to keep out of the army I could go back to college, whereas by remaining here I am running a risk of being sent into the army.

Why don't you go?-Because the practice wants look-

ing after.

The Chairman announced that the Tribunal thought that the practitioner should remain, under the special circumstances of the case. There was no one else in the neighbourhood to look after the animals which were not in normal condition. A V.S. of North Walsham told him that many horses had to be put in slings on account of their impoverished condition, and could not work at all. One man had twelve horses, and had to rest them for a fortnight before he could take them out of the stable. It was a serious state of things. Some farmers could not get proper food for them, and others would not spend the money they ought to.

Ewes and Dried Grains.

The following, from the report of the Chemist to H. & A. S. may be of interest to some of our readers.

"Several valuable ewes nursing big healthy lambs died within forty-eight hours after having been shifted from a field, where they had been grazing for some time, to another field where they were fed with dried grains and cake in addition to grass. The stomachs and intestines of some of these ewes were examined for arsenic, lead, and alkaloidal poisons, with negative results. The contents of the various stomachs were found to have a distinctly acid reaction, the acid amounting to 2.5 per

cent. expressed as lactic acid.

The mixture of dried grains and undecorticated cake used was sent in for analysis, and was found to possess a high degree of acidity, as much as 32 per cent. of lactic acid was found to be present, other acids also present in minute quantities. The acidity of the grains was due to the action of lactic fermenting organisms upon the sugars normally present in this particular feeding-stuff. Whether the fermentation was promoted by the presence of cotton cake or not is a matter for further investigation. The effect of such bacterial action and resulting acidity on the digestive tract of sheep is a problem for the veterinary physiologist, but it is easy to see that the normal activities of the stomachs of sheep would be suspended and that death would result simply from impaction or in other ways. I reported that acidity and abnormal bacterial action in the feeding stuffs were, in my opinion, the most probable cause of death, but that the facts should be placed before vetericary experts for their consideration and final judgment.

The Berwickshire Sheep-dipping case.

At the statutory May meeting of the Berwickshire County Council, held at Duns, in the report of the Executive Committee under the Diseases of Animals Act, the following occurs :-

"The penalties which may be imposed for offences under this Order are the same as for offences under the Diseases of Animals Acts, where disease actually exists and numbers affected generally are few, whilst in connection with offences under the Sheep Dipping Order, there is no disease, and large numbers may be involved as in the recent case. Your Committee therefore recommend that the County Council as Local Authority should strongly represent to the Board of Agriculture and Fisheries the desirability of a revision of the penalties applicable to the Sheep Dipping Order, and also that there should be a maximum cumulative penalty of a reasonable amount.

It was agreed to send an excerpt of the minute to the

Board of Agriculture and Fisheries.'

DISEASES OF ANIMALS ACTS 1894 to 1914, SUMMARY OF RETURNS.

					Anth	rax		ot- Iouth ase.	Glan	ders.†		sitic age. ‡		Swine	Fever.
I	Period.				Out- breaks (a)		Out- breaks (a)	Ani- mals.	Out- breaks (b)	Ani- mals.	Out- breaks (b)	Ani- mals.	Sheep Scab. (b)	Out- breaks (a)	Slaugh tered.
GT. BRITAIN.					1	11	1				1	7 77		• • •	1
	Week	ende	d June	e 22	3	4			1	4	84	161	2	56	31
Corresponding			917		3	4			1	1	33	57	2	56	32
week in	1		916 915		9	9 10			4	2 13	19 26	47 40		96 123	271 492
Total for 25 wee	ks, 191	18			141	159			19	55	2935	5621	242	666	244
Corresponding	1		917		288	325			14	25	1538	3098	380	1369	584
period in	1		916 915		369 351	366 389	1	24	25 23	67 37	1450 ‡398	3402 ‡867	173 156	2495 2212	7811 10234

† The Parasitic Mange Order of 1911 was suspended from 6th August, 1914, to 19th March, 1915, inclusive
a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked:—Essex 1, Hants 1, London 2
Board of Agriculture and Fisheries, June 25, 1918

Excluding outbreaks in army horses.

IRELAND. Week ended	June 22	1	1		 		Outbreaks 2	3		
Corresponding Week in -	1917 1916 1915			:::	 		1 1 2	8 6 2	6 9 7	11 83 34
Total for 25 weeks, 1918		2	2		 		75	173	9	29
Corresponding period in -	1917 1916 1915	3 2 1	5 6 1	 	 1 1	1 3	27 34 33	250 221 249	138 154 140	905 865 821

Department of Agriculture and Technical Instruction for Ireland. (Veterinary Branch), Dublin, June 24, 1918
Note.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

The Cleveland Bay.

The following notes on the history of the breed are from a letter in *Live Stock Journal*, over the signature of "Yeoman."

from a letter in Line Stock Journal, over the signature of "Yeoman."

"During the latter part of the eighteenth century and the earlier years of the nineteenth the Chapman horse—for by this name was the breed originally known—was principally bred in that district between the Tees and the Esk known as the Vale of Cleveland, and in the dales extending therefrom towards Whitby, Pickering, and Scarborough. In other parts of Yorkshire, and in the country of Durham, Cleveland Bays were also extensively bred, and there can be little doubt that at an earlier period these active, clean-legged horses were widely spread all over the country. Indeed, it has been asserted that they are descended from the breed of horses indigenous to the country, and there is at any rate some show of probability in the theory.

When the large-sized flash-topped horses became fashionable the evil practice of coupling leggy half-bred sires with Cleveland mares became prevalent, and had a very prejudicial effect. To such an extent was this practice carried that there was considerable danger of the breed becoming extinct. Several farmers, however, made strenuous efforts to maintain it in its original purity, and it is entirely owing to their public spirit that the breed did not die out from the effects of the injudicious crossing.

Forty to fifty years ago the largely increased demand for heavy cart horses and the extravagant prices paid for them caused the Cleveland Bay to be neglected. The foreigners, who had always been large purchasers, eagerly availed themselves of this change of fashion, and bought more largely than ever. Then, as heavier horses became more required, some breeders adopted

the questionable policy of sending their Cleveland mares to carting sires. Owing to these causes, for a second time in the last century the breed had a narrow escape of becoming extinct. But in the northern part of Cleveland, and in some of the dales near Whitby, breeders were still to be found who, thoroughly appreciating its walue, exerted themselves to maintain it in purity. Some of the local agricultural societies also did good service, notably the Hinderwell and Loftus Societies; whilst of the larger societies the Cleveland has always retained classes for Cleveland Bays in its prize schedule, and a right good show the breed used to make in "old days."

and a right good show the breed used to make in "old days."

The Cleveland Bay combines in a remarkable degree strength and symmetry. With a rather plain head, but well carried, he has good shoulders, back and loins, and fine quarters. He is possessed of good flat legs void of hair, and his action is good. As the name denotes, his colour is bay, either light or dark, with black legs—it is a mistake to fancy that the bright golden bay alone is pure bred. No white is admissible, save a small star or a few white hairs on the heel—a blaze or white leg proclaims distinctly the presence of foreign blood.

OBITUARY. Dr. A. F. Liautard, M.D.

Dr. A. F. Liautard, M.D.

Dr. Liautard was an Associate R.C.V.S., his diploma dated Oct., 1880, nearly 38 years ago, one of a group elected at that time, several of whom were schoolmen, which included Dégive, Chauveau, Lanzilotti-Buonsanti, Lydtin, Perroncito, three of whom have already gone over to the majority, but all are names familiar in veterinary literature. The name of Dr. Liautard has been identified with veterinary literature in U.S. America for many years, and his European chronicles was a lead-

ing feature in the Journal. The following excerpts WILLIAM STEVENSON, M.R.C.V.S., South Shields. from an American memoir show how continuous and Graduated, Glas: April, 1880. how unselfish his work for the veterinary profession has

"Alexandre Francois Liautard died at his home, Bois Jerome, France, April 20, 1918, in his eighty-fourth year.

Born in Paris, February 15th, 1835, Dr. Liautard in his early youth entered the famous veterinary school at Alfort, France, from which institution he graduated in 1856, and after serving three years in the French Army, came to America to practise his profession, and reorgan-ised the New York College of Veterinary Surgeons in New York City, which had been chartered in 1857. At the same time he studied medicine at the University Medical College in New York City and received his degree of Doctor of Medicine therefrom in 1865.

He was one of the organizers of the United States Veterinary Medical Association and recorded the first official report of that organization, having been selected to act as Secretary at the sessions of that first meeting on June 9th and 10th, 1863 where seven states were represented. It was at this meeting when this skilled veterinarian, a graduate from a seven-year course veter-inary school, and at the time a student in medicine, surrounded by the forty men who with him were organizers of our national association, all earnest of purpose, and while veterinary practitioners, but few regular graduates, that Dr. Liautard suggested as the motto of the association, Non nobis solum-not for us alonewhich he afterward adopted as the motto of the American Veterinary College, and which is still the motto of the consolidated schools in New York City to-day. Another example of his nobility of character and self-sacrifice was when, in 1913, the American Veterinary Medical Association made him Honorary President on the occasion of its fiftieth anniversary in New York, he being the only living charter member, he denied himself the pleasure of being present to remain at the side of his invalided wife in France.

Dr. Liautard served as President of the United States Veterinary Medical Association from 1875 to 1877, and again from 1886 to 1887. When the Association decided that it needed an official organ, Dr. Liautard was selected as editor; and after some years, when he had made of it an interesting and important organ of the veterinary profession, the association decided to pass it over to him as his own periodical. This step in no way detracted from the value of the American Veterinary Review (which he named it) to the association, but, on the contrary, added to it, and increased its value to the American veterinary profession in general which, under Dr. Liautard's editorship, it guided and moulded both in and out of the Association. When the Review was again taken over by the American Veterinary Medical Association some forty years later, it still found Dr. Liautard the senior editor, and he never ceased to contribute richly to it up to the time of his death.

Dr. Liautard's entire life was devoted to veterinary education. In 1875 he severed his connection with the New York College of Veterinary Surgeons, where he had been Dean, Professor of Anatomy, Operative Surgery, Clinical Director, etc., since 1860, and organized the American Veterinary College, where he filled the same rôle until the amalgamation of the two schools as a department of New York University in 1899 under the name of the New York American Veterinary Col-lege, when the late Professor William J. Coates became his successor.

In addition to his college work, Dr. Liautard was constantly working in the preparation of text-books for the veterinary profession and was the author of a long list of standard works.

As an anatomist and teacher of anatomy he never had an equal."

Mr. Stevenson died 17th June, aged 63.

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10 Red Lion Square, Holborn, at 7 p.m.

Meetings, Second Wednesday, May, Oct. and January

Meetings, Second Wednesday, May, Oct. and January

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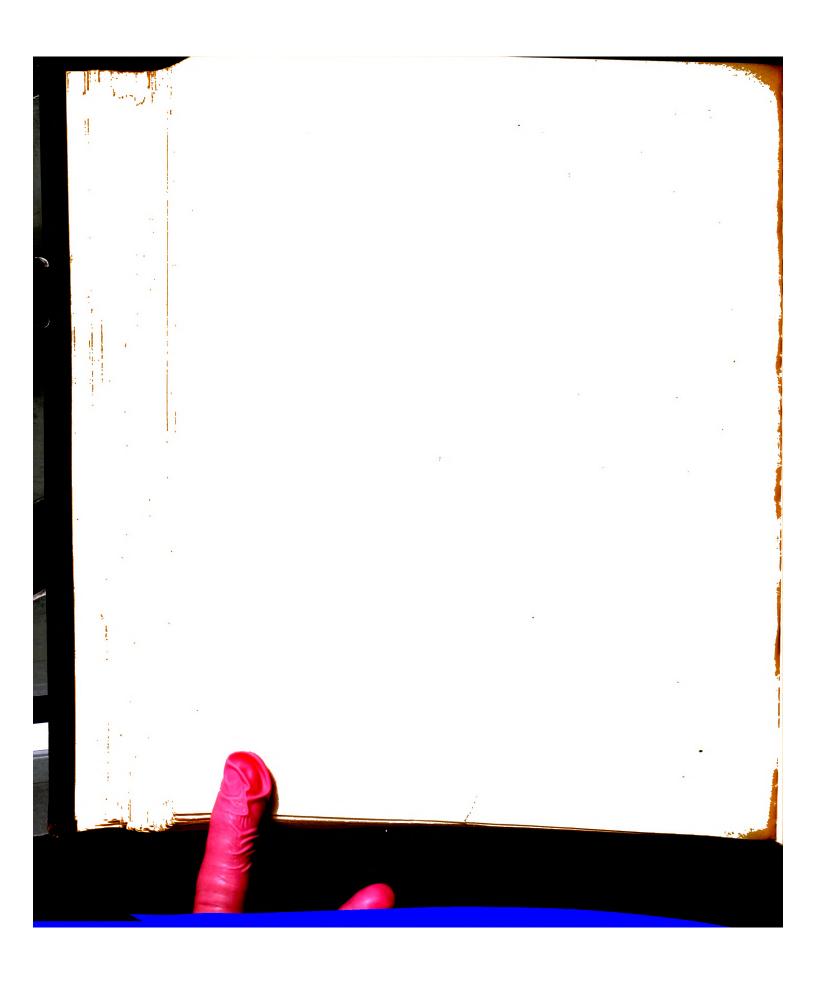
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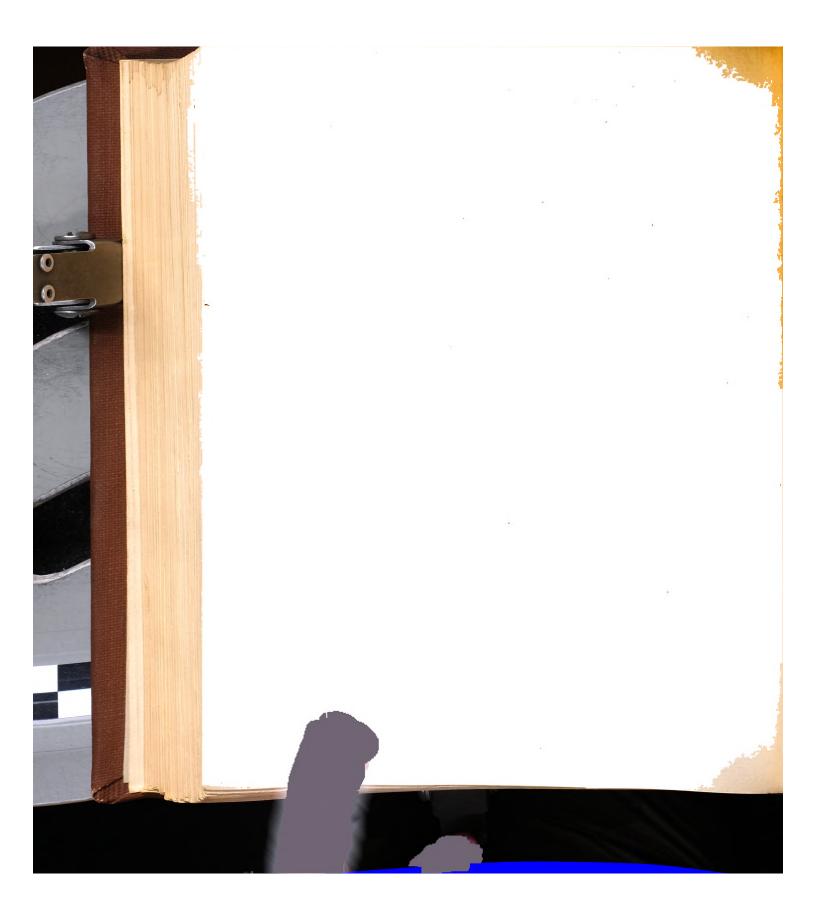
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